APR 23 1924

HYGEIA

A JOURNAL OF INDIVIDUAL AND COMMUNITY HEALTH

Published by the American Medical Association

Medical Research and the Discovery of Insulin
F. G. Banting

Fake Health and Beauty Columns
Arthur J. Cramp

"Skeeterskooting"
John B. Huber

The Eclipse of Magic in Medicine
Ray Lyman Wilbur

May, 1924

25 Cents

Another Terror of Childhood Dispelled

The time was when children would go across the street to get just as far away from a contagious disease sign as they could. Their parents had brought them up in dread and fear of the consequences of being even on the same side of the street.

Now, while such a sign is a warning that those subject to the disease should not enter, the whole world knows that medical science has constantly cut down the dangers and is bringing to bear new forces to combat every disease. At the first sign of trouble "See Your Doctor First." In this way and this way only can you avoid the possible danger of contracting or disseminating a contagious disease.

Proper disinfection is one of the first rules your doctor will lay down for you, and proper disinfection means a strong germ destroying agent that can be employed with safety. Izal, twelve times stronger than pure carbolic acid, gives you such an agent. With its tremendous killing and penetrating power no germ can withstand its effects.

And yet, in dilution it is entirely safe, as it does not burn or crack the skin. It is even used in proper dilution as a mouth wash and gargle.

Izal can be mixed readily with any liquid, and does not tarnish metal nor does it injure leather, cloth or paint, thus lending itself admirably to fumigation.

Izal may be purchased either in liquid form in fifty-cent bottles, or where desired to be used for certain purposes for which a liquid disinfectant is unsuited, it may be had in powdered form in twenty-five cent cans.

Izal will help make your household safe from infectious disease germs. Your family can be spared many dangers by using Izal in the proper disinfection of your home.

Ask your druggist or send direct to The Abbott Laboratories.

THE ABBOTT LABORATORIES

IZAL
THE HIGH POWER
DISINFECTANT

IZAL Dept. 4758 Ravenswood Ave., Chicago, Ill.

NEW YORK SAN FRANCISCO SEATTLE LOS ANGELES

HYGEIA, a Journal of Individual and Community Health, is published monthly by the American Medical Association, 535 North Dearborn Street, Chicago, Ill. Yearly subscription price, $3.00; for Canadian postage add 30 cents, foreign 50 cents. Volume 2, Number 5. Entered as second-class matter March 21, 1923, at the postoffice at Chicago, Ill., under the Acts of March 3, 1879. Acceptance for mailing at special rate of postage provided for in Section 1,103, Act of October 3, 1917, authorized March 21, 1923.

HYGEIA

A JOURNAL OF INDIVIDUAL AND COMMUNITY HEALTH

Published by the American Medical Association

VOLUME 2 — MAY, 1924 — NUMBER 5

"WHO'S WHO" IN THIS ISSUE

WILLIAM H. MATTHEWS is director of Family Welfare Department of the New York Association for Improving the Condition of the Poor, and a national figure in social service work. DR. W. A. PUSEY is author of several works on diseases of the skin and a frequent contributor to HYGEIA and to medical publications. The late DR. JOHN B. HUBER was well known as a pioneer in discussing health for the public, and was the author of "Nothing but a Cold" in the March issue.

DR. JOHN LOVETT MORSE is an authority on the diseases of children and was formerly professor of pediatrics at Harvard medical school. DR. F. G. BANTING, with PROF. J. J. R. MCLEOD, received the latest Nobel prize award for the discovery of insulin, used in the treatment of diabetes. Dr. Banting's article was given as an address at the recent dedication of a part of the University of Illinois new medical school plant in Chicago. On the same occasion, DR. RAY LYMAN WILBUR, president of the American Medical Association and of Leland Stanford University, California, spoke on "The Eclipse of Magic in Medicine."

DR. ARTHUR J. CRAMP directs the Bureau of Investigation of the American Medical Association and is a member of the editorial board of HYGEIA. A. T. PACKARD is a middle-aged golfer and sports editor of the *Chicago Evening Post*. EDITH LOCHRIDGE REID is a free lance writer.

DR. L. L. LUMSDEN is surgeon of the U. S. Public Health Service. G. ALICE FEIKE WIEMAN is a student of home economics at Oregon State Agricultural College, Corvallis, and a former resident of the Practice House. The Bureau of Health Education, Department of Public Instruction of Pennsylvania, is directed by DR. CHARLES H. KEENE.

DRS. HEKTOEN and PERRY, who are collaborating on a series of articles for HYGEIA, are director and staff member, respectively, of the John McCormick Institute for Infectious Diseases, Chicago. DR. VICTOR C. VAUGHAN is widely known as an author of articles and books on preventive medicine.

The June Issue:

If you are planning an ocean voyage this summer, you will be interested in finding out how to acquire your "sea-legs," so that you can enjoy at least part of the trip. DR. GLOVER H. COPHER *not only tells you how to lessen the chances of suffering from seasickness, but he also tells you some of the things that cause it.*

"We are curiously and wonderfully made. Every gland in our body is dependent on the function of some other gland, and our health—mental and physical—depends on the harmonious, cooperative working of all the glands," says DR. HEBER J. SEARS, *head of the department of Hygiene at the University of Utah in his article "Goiter and Its Effect on Mentality."*

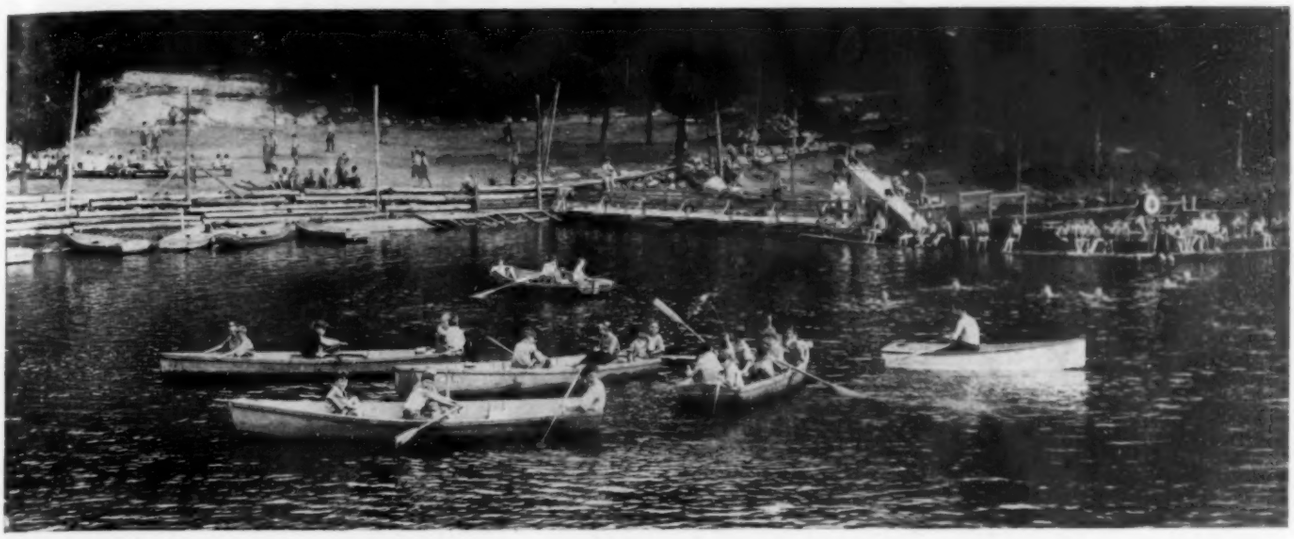
Contributions to HYGEIA *are considered, and, if accepted, paid for. Stamps for the return of unaccepted manuscripts should be enclosed. All communications should be addressed to* HYGEIA, *535 North Dearborn Street, Chicago, Illinois.*

CONTENTS

	PAGE
BOY BUILDING IN SUMMER CAMPS — *William H. Matthews*	275
WHERE THE WOOL OUGHT TO GROW — *W. A. Pusey*	279
THE OVERTRAINED CHILD — *John Lovett Morse*	280
"SKEETERSKOOTING," OR RIDDING YOUR TOWN OF MOSQUITOES — *John B. Huber*	283
MEDICAL RESEARCH AND THE DISCOVERY OF INSULIN — *F. G. Banting*	288
WHAT DO WE TALK ABOUT?	292
THE ECLIPSE OF MAGIC IN MEDICINE — *Ray Lyman Wilbur*	293
FAKE HEALTH AND BEAUTY COLUMNS — *Arthur J. Cramp*	297
GOLFING—AFTER FIFTY — *A. T. Packard*	302
HAVE A BACK YARD GARDEN FOR HEALTH	305
ESTABLISHING A CHILD'S FOOD HABITS — *Edith Lochridge Reid*	307
BRINGING HEALTH TO THE COUNTRY DWELLER — *L. L. Lumsden*	308
A PRACTICE HOUSE BABY — *G. Alice Feike Wieman*	313
TOO MUCH RHUBARB — *L. E. Warren*	314
SEVEN KEYS TO SCHOOL HEALTH, PART II — *Charles H. Keene*	315
DRINK SIX GLASSES OF WATER A DAY	320
"NEIGHBORLY DISEASES"—MEASLES — *Ludvig Hektoen and Ethel B. Perry*	321
NOT TOO LATE TO ENTER POSTER CONTEST	323
HOW SYPHILIS BECAME A WORLD-WIDE PLAGUE — *Victor C. Vaughan*	324
PLAIN FACTS ABOUT HEALTH AND DISEASE:	
Health News of the Month	326
How to Select Your Doctor	326
Narcotic Addiction in the United States	327
Mountaineering	328
Smallpox Vaccination Is Safe	329
New Outbreaks of Botulism	330
TIMBUCTOO — *Louise Martin*	331
HOW THE BAD-HABIT FAMILY GOT INTO KINGDOM HEALTH — *Edith Ingersoll Bullen*	332
HEALTH NEWS AND VIEWS	333
QUESTIONS AND ANSWERS	338
HEALTH REVIEWS	340

Copyright, 1924, by the American Medical Association. All rights reserved.

Yearly subscription price, $3.00; for Canadian postage add 30 cents; foreign, 50 cents.



Boy Building in Summer Camps

WILLIAM H. MATTHEWS

Unfortunate is the boy who grows into adulthood without knowledge of life in the country; who knows not the joy of fishing up the brooks, of hunting snakes and bullfrogs at the edge of the pond, of prowling Indian fashion through the woods, of diving into one of nature's swimming holes where the water always runs fresh, of climbing to the top of the trees where the best fruit hangs—even at the risk of breaking his neck—of somersaulting his way through a field of hay cocks, of lying flat on his back in a meadow with naught of brick and mortar to shut from his eyes the expanse of drifting clouds and sky far over head.

"DO I get a chance to go to boy's camp this summer?" The question was shot at me by a twelve year old lad who happened out of a nearby tenement hallway as I was standing on the curb waiting for a chance to get through the Eighth Avenue traffic. I recognized him as one of last summer's campers, one of many hundreds of boys I have come to know intimately as I have gone in and out of boys' camps over a period of twenty-odd years: boys of all kinds, yet most of them white-faced, skinny, and underweight on the day they trooped forth from the room in which they had been assembled to be looked over by the doctor.

Each year I have become more convinced that in well conducted boys' camps is to be found one of the surest means of adding to the health of boys' bodies, minds, and souls.

And why? First, the very régime of a well conducted boys' camp tells for health—the health that comes from clean, regular habits of living. This is equally true for the very poor boy who has experienced little but the meagerness of living, with but the barest of life's necessities granted him, and for the boy of well-to-do parents who has had plenty of everything and who is inclined to attach too great importance to his wants. I myself should like to see some camps in which boys from both groups were brought together, all living on the same footing, each learning from the other.

One Day's Program

What should be the daily program at such a camp?

One should not attempt to be absolute in answer. Programs will vary according to camp locations, according to what such locations offer by way of recreational and work opportunities. Perhaps I can best answer the question by giving as briefly as possible a day's program at the camp illustrated in this article, which happens to be the one conducted by the New York Association for Improving the Condition of the Poor.

At 7 a. m. the getting-up bugle sounds. In ten minutes all the lads are out on the campus ready for setting-up exercises; then fifteen minutes for washing up—hands, face, teeth. At 7: 30 every lad is at place in the mess hall, putting away cereal, bread, eggs, cocoa or milk.

This over, they return to their sleeping shacks, to hang out blankets, sweep the floors, and clean up in general about the grounds. This means real work for an hour. Competition for the best-kept shack is always keen, and prizes are given in each party to the group having the highest percentage over each two weeks of daily inspection time. Then the camp leaders (all men chosen for their understanding of and experience with boys) take the lads off in groups, boating, fishing, hiking, etc.

Where milk, bread and other caloric substances disappear in large quantities and with amazing rapidity.

At 11:30 all the groups are back in camp getting ready for a swim in the lake, the leaders all with them. How the hills resound with their shouts as boy after boy "hits the water"! Those who cannot swim are kept together in the enclosed pools and given lessons. Many of them thus learn at least the first rudiments of swimming. A half hour for drying off and dressing, and then dinner—soup, stews, vegetables (green, if they can be procured), and always plenty of whole wheat bread, and milk.

After dinner comes the rest hour, during which the boys lie flat on their backs on their cots, a strange proceeding for most of these lads, yet quite readily accepted after the first day or two. Then shack inspection, with beds made ready for the night. This over, the group again breaks up into squads for baseball and other competitive games, the competition being between the different shacks, which house thirty boys each. Another short swim for all at five o'clock; and then supper at six.

Evening Around the Camp Fire

Between seven and nine the program is less regular. After flag lowering, which comes immediately after supper and at which every person in camp assembles, the boys sit about in groups, play ball, box a bit, but always with their leaders taking part in the sports. At eight they all swing in together again around the evening camp fire for general entertainment, singing, and story telling, and sometimes a corn roast. No camp should be without a good singing leader, and one of the requisites for any camp leader should be ability to tell to the group a good boys' story. And then, at nine o'clock, they go to bed and sleep. And with a day like that behind them, boys will sleep.

Let a camp leader appear on the grounds with a set of boxing gloves, and there is never a dearth of spectators. Friendly enough, but no four o'clock tea!

As I have said before, programs will vary. But there must be a planned program of some kind if a group of boys taken from a city environment are to profit by and enjoy a two or more weeks' stay in a camp. Otherwise there will be lonesomeness, homesickness, and trouble of many kinds. I have seen camps in which half the boys wanted just one thing—a ticket that would take them home; and failing to get it would start off to reach there in any way they could. The average city boy, after a couple of days in the country, will begin to yearn for the life of the city streets

that he knows, unless the camp to which he goes has on its staff men who themselves know the joy of life in the country and no less know how to impart their interest and joy to others.

I remember well one little lad who sat at the foot of a tree sobbing his eyes out. To the questioner who sought to know the cause of his trouble his reply was, "There ain't no streets to play in up here, and I want to go home." The great out-of-doors meant nothing to this lad except a place to get away from.

With a pair of clippers, every camp leader qualifies as a barber.

Nor should the life of the camp be so rigid and regulated that boys lose all sense of freedom and initiative; for this, too, will soon make camp life dull and uninteresting to real boys. In every activity I have mentioned in the above program there is abundant opportunity for the exercise of those qualities. In baseball, for instance, after a day or two of practice and acquaintance on the ball field, the boys will make up their own teams. In the evening's entertainment about the camp fire they will rapidly discover, if given the chance, the boys who, in their groups, can do the stunts that delight boys' hearts.

In the matter of winning the coveted points that will put percentages ahead in shack inspection, boys will plan and work every spare moment they have to bring to the grounds about their shack some decoration or embellishment that they hope will win the inspector's approval. What is more; woe betide the boy who, because of unwashed teeth, dirt behind his ears, or uncombed hair, cuts down the percentage.

But with all this there must be on the part of the camp leaders direction and supervision; a supervision kindly, patient, and understanding, yet firm, if necessary, in insisting that every boy be given a fair deal, that there be no bullying or overreaching on the part of bigger boys over little. And boys, let it be said, once convinced that the leader is possessed of those same qualities himself, will quickly acknowledge the justice of that creed and apply it among themselves.

Again, without watchfulness, especially when boys are not kept busy, a camp may become a very hotbed for the spreading of the most vicious of habits. The men in charge must be ever on the alert for any such signs. One boy in a tent or shack, schooled in such practices, may contaminate the entire group.

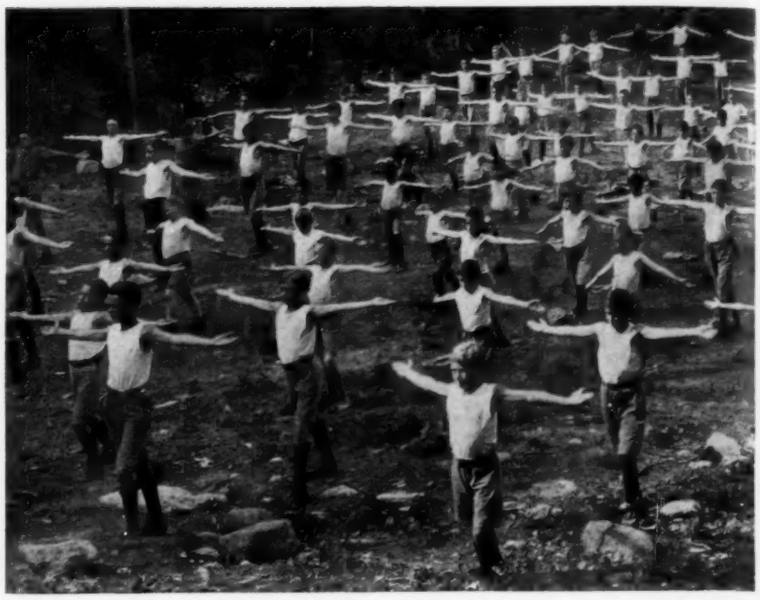
Much Depends on Choice of Leader

A healthy location, good sanitation, clean, well-kept buildings, a well-run kitchen and mess hall—these are all requisites for a camp. Yet a camp may have them all, and still be a very bad place to send boys. Better leaky buildings and inadequate equipment, with the right sort of men in charge, than the best of buildings and equipment, with poor, second-

Waiting for the leader's whistle, which means "All in!" Every lad will try to be the first to hit the water.

rate men in charge. Merely seeing that the boys get something to eat three times a day, that they do not actually drown in their eagerness to swim, that they get to bed at a prescribed hour—these call for little.

Many of us are familiar with the type of camp leader who is satisfied to sit on the bank most of the day yelling "don'ts" at his boys; who spends most of the swimming hour in high diving off the plank while the boys huddle together in the corral; who, hearing the whimpering of some little lad on his first night's sleep in the open, is lazily content to let him cry it out; whose usual reply to a boy coming to him with some trouble, real or fancied, is "beat it." Of course such men should not be selected for the work; they are not worth room in the camp as leaders, to say nothing of salaries.



Ten minutes after the getting-up bugle sounds, the boys must assemble for setting-up exercises.

A mistake is often made in representing the work as easy, as a good way to have a vacation for oneself. On the contrary it is hard work—joyous work to be sure to one who has the aptitude for it—but hard. It calls for the best; men who not only understand but love boys, who know how to enter into their lives, to be both pals and friends with them; men of self-control, idealism and mature judgment, tireless in patience, generous, joyous, faithful, and always just.

Can Accomplish Character-building

Weeks spent in the country by such boys as those of whom I write can be made to mean so much more than merely physical improvement; in addition to pounds of flesh put on their thin bodies, in addition to the education in personal hygiene that camp life makes easily possible, their minds and hearts can be stored with joyous, wholesome memories, and their characters can be molded and strengthened for all time.

In short, the camp should minister to that trinity of body, mind, and spirit. Admitting the truth of the old Latin phrase, *mens sana in corpore sano,* is it not also true that incentives to high, noble living are purely mental, moral and spiritual? The men in charge of boys' camps must be possessed of these incentives. No man can give to others what he himself does not possess.

I have before me a copy of a letter that was sent to a man by one of the boys who made up the group that came under his care in camp. It reads:

> My dear Mr. ———
>
> I want to tell you I am getting on fine. I have followed the advice you give me on those nights when you talked to me out on the platform. I guess I thought I knew more than you did, but you was right and I found it out. I hope if you come back next year I will see you, but I won't ever forget you and what you told me, if you don't.
>
> From your camp boy,
>
> John ———.

The camp leader had told me of his experience with the lad; of his utter disregard for other boys' rights, and of his first rebellion against any correction. Evening after evening

Competition for the best kept shack is always keen. These fellows are spick, span and ready for inspection.

he took the boy off alone and talked with him, told him of life as he, a matured man, knew it. Finally he had won his boy. And I have no doubt his influence, through that boy, will spread to other boys, and so on and on.

As Charles Kingsley replied, when asked how he had made his life what it was, "I had a friend." Young John found in his camp leader a friend, and the friend, being of the right sort, started him on the right road.

Where the Wool Ought to Grow

W. A. PUSEY

THE world is full of Uncle Neds and each one is looking for some magic potion which will restore the hair on the top of his head in the place where the wool ought to grow. What treatment can be applied for baldness with any success must be given when there is still a reasonable crop of hair left. After it has developed there is no way out—except a wig.

A Thousand "Sure Cures" Advertised

Because of the fact that there is no satisfactory remedy for some kinds of baldness, and likewise because all mankind apparently prefers not to be bald, baldness is a fruitful field of cultivation by rascals who prey on forlorn hopes.

Whenever there is nothing that does a condition any good there are a thousand remedies for it, and this particularly applies to premature and senile baldness. Infallible cures for it succeed each other in continuous procession. They range all the way from sheep dip and mange cure through kerosene and the poisons, up to daintily perfumed fakes in fancy bottles.

In the aggregate these remedies constitute a colossal monument to the credulity of most of mankind and to the rascality of a small proportion of it.

Three Types of Baldness

Baldness in the popular sense of the term may be described broadly as occurring in three forms:

1. There is the rapid falling of the hair which follows sickness—a toxic disturbance due to the presence in the body of poisons caused by bacteria. Such baldness comes most commonly after diseases that are accompanied by a good deal of fever. It is usually temporary, and the hair regrows within a few months.

In such cases, it is a common practice to shave the head or cut the hair short, but there is no reason to think that such action does any good. However, it probably does good in these cases, and it certainly does no harm, to rub the scalp two or three times a day with the fingers—massage it—in order to stimulate the regrowth of the hair.

2. Baldness which occurs in spots is another form. It is not infrequent to see persons who have bald spots, from the size of a coin up to the size of the hand. There may be one or many of these spots and they occur irregularly over the scalp and, indeed, all over the body.

This form of baldness is called alopecia areata. Its cause is not known. It has nothing to do with syphilis and this should be known, because there is a cruel, ignorant belief that it is a manifestation of syphilis. So far as we know it is not a manifestation of any disease of the body. Very often these spots of baldness disappear. The condition may be helped by intelligent treatment.

3. The third form of baldness is the usual form: that is, the form which comes on by the hair getting thinner and thinner over the front of the scalp or over the vertex—the crown.

This form produces two common types: first, the baldness which goes back from the forehead and leaves in the end a wide expanse of glistening scalp with a fringe at the temples; second, the baldness which begins on the vertex and develops a round patch. These forms are called senile baldness, for lack of a better name. The inappropriateness of the name is shown by the fact that when it occurs early in life, as it often does, we call it premature senile baldness.

Development of senile or premature baldness is often associated with dandruff and therefore dandruff is thought to be the cause of it. In its early course, when there is still a reasonable crop of hair left, the disease can often be checked by treatment of the scalp for dandruff, or perhaps by measures directed to the stimulation of the scalp. Beyond this nothing can be done for it.

The Overtrained Child

JOHN LOVETT MORSE

THE overtrained child is the child that is overfatigued, either physically or nervously, or, as is said of athletes, has gone stale. As the result of the excessive demands made on children in these days this condition is extremely common. It is due to the increased strenuosity of life in general, the universal unrest, and the foolish desire of almost every one to have her children grow up quickly.

Parents are unwilling to allow babies to be babies, young children, young children, and older children, older children. They want little children to be youths, and adolescents to be adults. They are not satisfied to have them lead the simple lives and enjoy the simple amusements suitable for their age.

Dinner Parties Instead of Mud Pies

They send their children out to dinner parties when they should be making mud pies. They expect, or at least allow, children in their teens to do things which they should not do until in their twenties. Strangely enough, they draw the line at parenthood in the early teens.

Overtraining is often begun in infancy. Babies are handled, fondled and shown to friends—admiring when present and critical when absent—when they should be let alone and allowed to sleep and digest their food. They are picked up in the evening to be exhibited to friends, who would much rather be playing bridge or Mah Jongg, taken on long automobile rides, excited in many ways and not allowed time for proper rest and sleep.

Fortunate is the baby whose grandmothers live in distant cities, whose mother has few friends, plenty of work to do and no automobile, and whose father is tired enough when he comes home at night to rest. The results of overexcitement and lack of rest are insomnia, fretfulness, failure to grow and develop properly, and indigestion.

Babies should, of course, be played with, loved, talked to and mothered. If they are not, they do not do well. Lack of these things is one reason why babies do not thrive in hospitals. They should be played with and talked to, however, only for limited periods and at reasonable times. At others, they should be left alone to rest and sleep and to amuse themselves.

During the few years following infancy, the so-called preschool age, children are less likely to be overtrained. They have ceased to be novelties and are not considered old enough to be educated or forced into society. If the child is a girl, however, and the mother belongs in certain classes of society, she has usually lined up the eligible males in the community and has begun to set her traps to capture one of them. Many of them, however, are allowed to give up their naps or rests and are not put to bed at the proper time.

Daytime Nap Is Abandoned

Nothing exasperates me more than to have a large, able bodied woman tell me that she cannot make her child stay in bed in the daytime. Every child can be made to rest, although, of course, it cannot be made to sleep. The midday rest should be kept up until the demands of school life render it impossible. Children of this age, moreover, should always be put to bed early, best by 6 o'clock, but always by 7 o'clock.

Young children are very likely to play too hard and must be watched carefully that they do not overfatigue themselves. Parents and nursemaids are also likely to forget that young children, like puppies and kittens, are meant to play strenuously for a few minutes, then to rest, then to play again. They are not able to make continuous exertion.

Long Walks and Rides Tire Children

Therefore, children are not able to take long walks, as many parents, especially fathers on Sunday afternoons, wish them to do. Furthermore, their legs are short and when an adult walks at an ordinary gait, they are compelled to run to keep up. Long automobile rides are very fatiguing to young children. The rush of the air, the constant change of scene and the excitement do them much harm. Young chil-

dren should never be taken for long rides in automobiles, unless it is a necessity.

Children show overfatigue by irritability, disturbances of nutrition, failure to gain properly in height and weight—especially by loss of weight and appetite, and by indigestion. When a young child is snappy, irritable, peevish and hard to get on with, doesn't want to eat, is restless at night and not thriving, there is something the matter with him. He may be sick or spoiled, but not infrequently the difficulty is simply that he is overtrained.

When children begin to go to school, if there are two sessions, they are unfortunately usually obliged to give up their midday rest. It is always possible, however, to keep them in the house and quiet between the school sessions instead of allowing them to play violently out of doors. The rest does them far more good than does the fresh air. When there is only one session of school, they can, of course, continue to take the midday rest. In any event, however, they can and should continue to go to bed early. Children of this age should be in bed by 7 o'clock.

"Extra" Lessons Fatigue School Child

In my experience children of this age are almost never overfatigued or injured by their ordinary school work. In fact, they are very often benefited by going to school, because they have to keep still in school, while, if they were at home, they would be playing and tiring themselves out.

At this time, however, many children take up certain extras, such as music and dancing. Most children, at any rate boys, take so little interest in these things that they do not overtire themselves with them. Nevertheless, they do cause additional strain and are likely to interfere with proper rest and getting out of doors.

Among certain classes, the children at this age begin to go to the movies, if they have not gone previously. Many of them, fortunately, cannot understand what they see. Even when they do understand what they see, they are usually not able to evaluate it properly. They do not understand, as does the adult, how much is faked and how little real, and are in consequence overexcited and often badly frightened. Additional harm may come from the movies as the result of the bad air in the picture houses and the exposure to infection. The symptoms of overtraining in children of this age are the same as in the younger children.

By the time children are ten years old, extras have almost certainly been added to the regular school work, and most of them are allowed to sit up too late at night. Boys of this age often play altogether too hard, while the girls are already headed toward society. Most of them, however, do not take life very seriously at this age and are not as much injured by the overwork, late hours and excitement as they are later. The symptoms are no different from the earlier ones.

Early Teens Are Difficult

Conditions become more serious, however, in the early teens. At this time many children are overtrained, overfatigued and have gone stale. A certain number of them are irreparably injured. In the life of almost every child there are one or two years in the early teens, at the development of puberty, when, coincident with rapid growth, they have little resistance, are physically feeble and very easily tired, have no energy, are careless and heedless, and do not do well at school. This, nevertheless, is often the very period when they are likely to be forced. Allowances must be made for them. They do not do well at school, because they cannot. They haven't the energy to exert themselves, because all their energy is being used in growth and development.

Irreparable harm may be, and often is, done at this time by the attempt to force children to do well in their school work or to keep up their other activities. It is not only safe but absolutely necessary to mark time for a year or two. They easily catch up later, when they have passed through this stage of development.

The Poor Little Rich Children

The life of children from twelve or thirteen years on, among the well-to-do, is likely to be too strenuous. After they are fifteen, certainly, their regular school work is usually all that there is really time for them to do and still have time for play and proper recreation, and

sufficient time for sleep. Nevertheless, many of them are forced to take many extras, such as music, dancing of one kind or another, elocution, or an additional language. A number of them are having their teeth straightened.

Many of the unfortunate children of the rich, in addition, have to be taught how to play games. Every hour of the day and evening, including those of Saturday and Sunday, are filled. There is no time left for spontaneous, simple amusement, and, usually, sufficient hours are not allowed for rest and sleep.

If the children were organized like the laboring men, there would be a universal and justifiable strike, not for higher pay but for shorter hours. In consequence the children are pale, underweight and round shouldered, irritable and snappy, do not sleep well, and do not do well at school. As a rule their appetite is poor and their bowels constipated.

Grown-up Amusements Unsuitable for Young

Another major cause of overfatigue at this age, especially in girls, is the taking up of amusements which, while they may be reasonable after eighteen or twenty, are not suitable for growing children. Amusements of this sort are dances lasting into the small hours of the morning, dinner parties and theater parties.

Girls usually take these amusements more seriously than do boys of the same age, who usually do not enter into them of their own volition, but are dragged into them because the girls cannot have their parties without boys. Girls are, therefore, more excited and more fatigued. Both boys and girls, however, are overtired by the loss of sleep and undue excitement.

Another cause of overfatigue, which occurs almost entirely in boys, is undue indulgence in athletic sports. They are naturally anxious to excel, do not know enough to spare themselves, and push themselves to and beyond the limits of their endurance.

Athletics May Be Too Strenuous

Unfortunately, many teachers and athletic directors fail to appreciate that a growing organism should never be pushed to its limit. They are apparently also ignorant of the fact that at about the time of puberty the body grows faster than the heart and that, in consequence, the heart is not able to meet even ordinary strain, much less extraordinary. These boys are overtrained in the true sense and are athletically stale much of the time.

Many boys are permanently injured by overstrain of the heart at this time. Many others who would later become fine athletes, if they

were not pushed so hard at this time, are "burned out" and never amount to anything later. Boys should not be allowed to take part in competitive athletics unless they have been examined and judged qualified by competent physicians. Teachers and athletic directors should be compelled to follow the advice of the physician.

Many boys, and girls as well, are injured in the same way by the athletics at summer camps, where, in many instances, there is no proper medical supervision and all the children are obliged to do the same things whether they are able or not. It not infrequently takes until Christmas for children to recover from their summer in a camp.

The same criticism applies to the Boy Scouts, where boys of all ages, sizes and physical condition are made to do the same stunts and go on the same hikes. Almost never are any physical examinations made to determine the ability of the individual boy to bear the strain.

Nothing has been said thus far as to the remedy for this condition of overtraining or overfatigue in early life. As always, in medicine, "an ounce of prevention is worth a pound of cure." More than that, an ounce of prevention in this connection will obviate the need of a pound of cure. It hardly seems necessary to speak of either methods of prevention or of cure. They are both the same and consist in the avoidance or removal of the causes of overtraining, which have already been mentioned.

"Skeeterskooting"

Ridding Your Town of Mosquitoes

JOHN B. HUBER

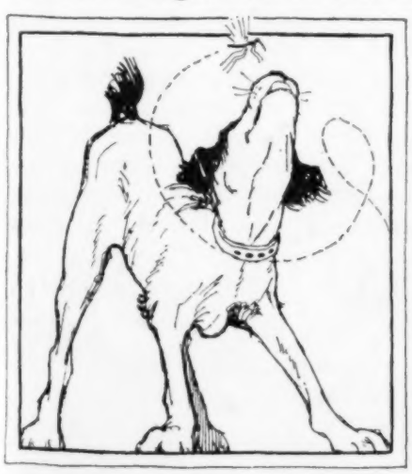
I RECENTLY spent a week-end with the Easybirds, who had for the season rented a place at Stingemhurst, Stingemhurst-on-the-Sound. We motored our way through a pleasant woodland from the railway station to their home, a pretty little house indeed, ensconced in no end of trees and bushes and garden foliage and hedges twice the height of an ordinary man.

I have no friends more mellowing and good to visit than the Easybirds, generally speaking. Geniality naturally exudes from that family like the fragrant essence from the morning-glory. And yet it seemed to me—just a subconscious impression, no doubt—that Easybird was now a trifle crusty. And Mrs. Easybird and her mother, though their greetings were as hearty as ever, appeared to me a trifle careworn.

The moment I stepped on the lawn their wire-haired dog and their terrier proceeded to tangle themselves up in my legs. And the Easybird olive branches—I can never keep track of that constantly elongating sliding scale—also encircled me in the most delightful way. One of them, however, little Gwenny, seemed to me frail and sallow-faced; and her lips felt cold to my cheek as she kissed me.

Mosquitoes Begin Their Evensong

And there was a new baby, which I took up into my arms. Its luminous blue eyes examined my features with the philosophic calm of infancy. I seemed to pass muster; for presently he began to croon and to take firm, energetic and uncompromising hold of my moustache, with the design, as it seemed to me, of uprooting that ornament to my complexion.



But our stay on that pretty lawn was brief indeed. We simply had to go into the house. For it was now nearing sundown and the mosquitoes were singing around our heads, alighting on our faces and hands; causing the children to be constantly slapping at their legs, and the dogs to be alternately yapping and scratching themselves.

After dinner we sat out on the screened porch, chatting with some friends that had dropped in, with not much other light than that of our cigars; whilst the little Easybirds, until their bedtime, distributed themselves among us.

All this took place to the hurdy gurdy of myriads of baffled pests that were outside the screening, thirsting for our blood; some of them successfully, for the screening did not seem to keep them all out. Female mosquitoes they were, for the most part, for your male mosquito is strictly vegetarian. His mate on the other hand wants blood, won't be satisfied without; being here, as elsewhere in nature, by that propensity, just so much more deadly than her consort. These mosquitoes were of the kind known to science as "anopheles."

Little Gwenny set herself in my lap, chatting a little, but evidently with effort; for her throat was dry, her breath hot, and her dear little body tired. Finally she gave up trying to play manners and, with a pathetic little shiver, dropped off to sleep in my arms. My hand felt the clammy sweat on her callow, green-hued cheeks, her pretty hair, matted with perspiration, and her cold finger tips.

The $200 Anti-mosquito Campaign

Gwenny was, of course, suffering from malaria; some one among the many hundreds of mosquitoes which had bitten her having transferred to her, with its sting, the malarial poison which it had abstracted with the blood of some previous victim. And what could be more melancholy than to reflect that this sweet-natured little thing had by now, in her turn, become a potential malaria granary, from which mosquitoes could spread afresh, to others, the malarial infection!

After the guests had departed and

Easybird and I alone remained to sit up, I learned the genesis of that crustiness which was tincturing his sunny temperament. The fact was, there was no end of malaria in Stingemhurst. The local health officer, a medical fledgling, with all those crazy up-to-date notions about disease prevention, had explained in the local paper the omnipresent malaria would disappear if the breeding places of that insect—which are invariably in quiescent water—were exterminated.

Stingemhurst multimillionaires, their wives and families, their man and maid servants, the week-end strangers within their gates, were just about as much affected as anybody else. Wherefore a campaign was instituted, by the instigation of that idiot of a boy-doctor—admittedly, however, something of a hustler. This youth was entrusted with the magnificent subscription of $200 with which he was to get all the swamps in and around Stingemhurst drained, all the stagnant pools earthened over, and such waters as could not be drained or filled up, petroleumed.

Frustrated in Raid on Cellar

Then that medical youngster got busy. He hired a lot of men to do the draining and the filling in and the kerosening. About the next thing he did was to visit the estate of Rokenuff, Stingemhurst's richest, best known and most influential citizen, who had provided the community with a hundred thousand dollar library, a church that must have cost even more, a drinking fountain, and what not else. He actually wanted—did that flip medico — to inspect Mr. Rokenuff's backyard—or what goes for a backyard to a mansion—and to investigate this magnate's cellar. That gentleman's butler shooed him off the place. Which proceeding infuriated him; made him feel, he declared, like a tramp that had had a shot gun shoved against his person with manslaughter intent.

Well, by about that time all the $200 had been spent, in wages to the ditchers and to the oil sprayers; with most of the stagnant waters in Stingemhurst still untackled. Easybird had leased his place under the impression conveyed to him by the astute agent that, however it might be with other hursts, the hurst in which he had made his home was speedily to become mosquito and malaria free. Here then was the cause, and a good one, of my friend's irascibility; a mighty better reason than Othello had for exclaiming, "It is the cause, it is the cause—my soul!"

"Easybird, my boy," said I, when he had ended his sad tale, "the trouble with you and your fellow-hurstians is you are too stiff-necked, you are too purse proud. You imagine that wealth is everything. The weight of your millions has dulled the edge of the milk of human kindness in you, has turned your honey into gall."

Here I discerned, by reason perhaps of my strained metaphors, a kind of sickly smile playing behind the glow of Easybird's cigar.

"Something more, something other is needed, besides your impressive subscription. You imagine your combined dross will take the place of neighborliness. It will not. This mosquito matter is really a neighborhood problem. You people have got to work together loyally in the communal interests, team fashion, if you want to be rid of mosquitoes and malaria.

How One Town Became Mosquito Free

"Take now, for instance, a little town I have read about, in our Southland—Heartsdale, Ga. This is now a mosquitoless town, though time was when that insect was mighty rife. There is not a million dollars in Heartsdale all told—far from it. I imagine those simple folk would be as much startled by the appearance of a millionaire in their midst as they would if an ichthyosaurus of a duck-bill platypus should show up. But Heartsdale is very rich in other things at least as much worth while—in pluck and gumption and kindly spirit, for instance.

"Some years ago its health board distributed to all its householders a circular pointing out the nature of the mosquito danger, and recommending the right preventive measures, especially constant supervision of one's own premises. Then the town council surveyed the entire dale, drained low places where rain water could stagnate, inspected every week all premises and ditches, putting oil regularly on any water that could not be drained. Most of the mosquitoes, please note, were found in back yards.

"The result is that these several years past malaria has been a negligible disease in Heartsdale; its good people sit any summer evening on their screenless porches, without the slightest discomfort from mosquitoes, and with no occasion for discoursing on the mysterious dispensations of Providence.

"Now," said I, "the virtue in these observations about Heartsdale lies in the application of them elsewhere—to Stingemhurst, for example.

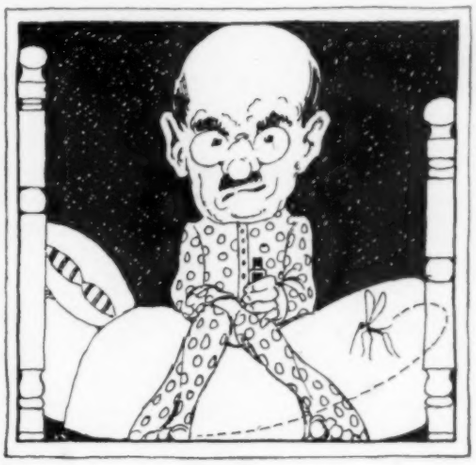
"Tell you what I'll do if you give me the liberty to be as inquisitive as I find necessary for your good. After breakfast tomorrow I'll go over your house and grounds with you. And I believe I can convince you, from one or two things my eye has already detected, that Stingemhurst's salvation as to malaria is just as near as her people desire it should be." To this Easybird agreed.

The Nightly Ritual of "Skeeterskooting"

Then he took me up to my room, carrying along a bottle containing a thick, yellow fluid. The sacred rites of hospitality were not complete in Stingemhurst, he gave me to understand, without the presentation to the guest in

due form and ceremony of such a bottle as he now handed me, which was labeled "Skeeter-skoot," and with which, after the manner of those darkest African potentates, I was to oil my head and face and neck liberally, in order that no mosquitoes might disturb my slumbers.

Against the mosquitoes' song this "Skeeter-skoot" could not protect me, but only against its bite. Throughout the night I heard a lot of the singing, and suffered from insomnia in consequence. Several landed on my face and neck, sought to extricate themselves, failed in this, and expired where they were stuck, as I found on looking in the glass in the morning. I felt, and not without some sense of humiliation, like a kind of animated fly paper. And yet, if I had not used that oil I should, like as not, have died of torture before morning. Oh yes, there were screens; of which more presently.



Next morning we all appeared at breakfast, except poor little Gwenny, who was really too ill to come down—had no appetite anyway. And no wonder—with a tongue that looked as if it had been kalsomined.

Then, according to agreement, we went over Easybird's establishment, beginning with the top floor. I looked out of the window of the room in which I had slept and at the roof of the next house, that of the Delamater O'Shea's.

"Easybird," I asked, "when did you have rain about here last?"

It was a week ago, Easybird well remembered. The storm was so great it kept him from going to church.

"Well then," I declared, "by Wednesday next, by tomorrow perhaps, you may depend on having a most unusually robust 'visitation' of mosquitoes on you, one that should make the Biblical description of the plague of flies that Pharaoh and his Egypt suffered rather banal reading. It takes about ten days for the mosquito eggs to develop into the fullfledged insect—earlier if the weather be luxuriously warm.

O'Sheas Get an Ultimatum

"Look at that roof now," I continued. "See how the eave gutters are clogged up with foliage that has for weeks been decaying. See how the water has, since Sunday last, been retained, despite the evaporation of the most of it. Why, on that roof alone, mosquitoes can be bred sufficient to infest, not only Stingemhurst, but also all the circumscribing county."

This which I said now sent Mrs. Ladybird way up in the air; and thence rocket-like down to the library, where she dispatched a note to Mrs. Delamater O'Shea, begging that lady's consideration of the outrageous condition of her roof; that it was a perfect mosquito factory, and would she kindly have it cleansed forthwith, in order that the whole neighborhood might not be infested from that dreadful source.

We next examined the screens. These were indeed a gruesome joke. To keep out mosquitoes, flies also, screening must have a mesh of twenty strands to the inch. In the Easybird's screening one could see mosquitoes that had got half way through and were stuck amidships. All they lacked to make the complete passage was time enough. They were old, those screens, and the frames were warped, so that one could view the sky and the landscape in the space below them, and could slip several thicknesses of paper or cloth between the upper borders and the window sashes.

What halcyon insect thoroughfares did those screens afford! All over the house was their like, except that, in addition, the screen door leading from the kitchen to the garden had a hole in it sufficient for all the insects this side the Styx to pass through.

Why the Maid Packed Her Bag

Next we went into a vacant room that had been occupied by a domestic whom Easybird had, with infinite diplomacy, brought from town, and who had discharged herself *tout de suite* and in a huff several days before. On the washstand was an emptied water pitcher which I brought to the light and made the occasion of some brilliant Holmesian deduction.

"See, my dear Wat—my dear Easybird. Here is a tiny raft made up of several hundred mosquito eggs. It is a moving, sentient mass. These eggs are developing into the wriggling stage of mosquitohood. Had I not detected them they would within a few days have begun asserting their will-to-live, at the expense of mankind in general, and of your family in particular."

The window of this room opened over the rear of the house, where were the garbage pails and

the like; the statement is compelled that the room looked a veritable shambles, by reason of the blood spatterings on the walls and ceilings. These represented the executions which the maid, who had flown, and her various predecessors, had found it necessary to perform. Do all maids, by the way, leave their places just out of natural perversity; or is there a reason, sometimes?

And so throughout the house and down into the cellar! On the concrete flooring of the basement were water collections remaining from the previous Sunday's storm, perhaps also from other storms during which the water had overflowed into the cellar. Here was a water can into which the cook for some time past had been trying to make geranium stalks develop roots—nice, juicy, stagnant water, most ideal for mosquito development!

The registers from the cellar into the rooms made excellent passageway for mosquitoes from below; and the fireplaces were open in the freest way to those anophelinae which elected to enter by way of the chimneys.

Mosquito Nursery in Back Yard

Then at the rear of the house, under that maid's gory room, I found an old water tank of an acetylene gas engine, soda water bottles and some other fluid containers, a tomato can or two, some broken glass—all capable of retaining water. Thence we passed into Easybird's garden—a pretty garden, vegetables growing in abundance, flowers too, the grass a trifle in need of a lawn mower, a very great deal of foliage, and some noble old trees. In fact a great deal of trimming (so it seemed to me) would have improved the landscape mightily.

I explained to Easybird that mosquitoes do not breed in damp grass, or in bushes or like growths; but that they rest and hide in such vegetation. Thus whilst anopheles begins its real biting at sundown, the simple act of our walking through the garden disturbed them sufficiently to bring them forth, to our considerable annoyance. I asked then for a ladder, with which I mounted into one of those fine old trees. It was as I thought. In its crotches, in its hollows, in its pockets, were little water gatherings—rich mosquito and malaria hatcheries.

Back of his garden Easybird had a little place where he raised chickens. Here I found such things as chicken pans holding water, a grindstone, on the frame of which a cup—water in it—was standing, and a lot of things like that.

Even Breed Them in Church

Then we went to church. For one of the fine things about the Easybirds is that in these days of Sunday morning motorings, and pianola playing, and Sunday newspapers, and that Sunday morning "tired feeling" after Saturday night festivities, they were steadfast church goers; except when the rain happened to be torrential.

We heard a good moral discourse, very wholesome, on the vanity of taking thought on earthly things. I had the pleasure to insinuate my little offering along side of the huge monetary mound in the collection plate passed along the aisle by the august and civic-spirited Mr. Rokenuff.

Here was a handsome structure indeed and well worth looking around in. After the service we contemplated the stained glass windows, and the superb altar and the baptismal font, and so on. Then something in that font caught my sleuthean eye, and I pointed it out to Easybird, whom I held back from our little party for the purpose. The water from the last baptism had not yet been removed. And, would you believe me, my friend swore, actually swore in church—under his breath, of course.

"Jumping Jehoshaphat," he exclaimed (or words to that effect), "if there isn't another raft of them."

Easybird Hears Second Sermon

Then we sauntered home, Easybird and I lagging behind, whilst I treated him to a second sermon, a little lay one, emphasizing my firstly, my secondly, and so on, by means of ample illustrations I was able to draw from the countryside through which we were passing.

"So you see," I expatiated, "a community can fail in dealing with the mosquito proposition. One patent reason is that somewhere, some nursery, many nurseries have been ignored as too trifling for consideration. Any place in which so little as an ounce of water can gather and remain still for a week or ten days may be such a nursery; marshes, pools, springs, fountains, of course. The breeding is not in the rushing or agitated waters, but mostly in such as are quiescent—those along the banks of running streams, or in pools by the side of such streams, or wherever there is scum in the backwaters of even rapid streams.

"See that watered horse's hoof print over there in the road, that tiny puddle, that post hole, that wagon wheel furrow, the marshiness in that field—these and the like have infinite mosquito potentiality. Yes, the water may evaporate; and yet the larvae are there, only in arrested development, to mature into pestiferous existence after the next rainfall. You have noticed, of course, how especially vicious mosquitoes are after a storm.

"One must think also of watering troughs infrequently used, water puddles in clumps of grass, of places where mosses abound, of depressions that go unnoticed in the high grass, of irrigation ditches and excavations, of old river boats, the hollows of rocks, water under the stones, water barrels, tubs, cesspools, dis-

used wells, the old oaken bucket, fire buckets, sewer catch basins, broken glass put on the tops of walls to keep cats and small boys off the premises.

"Mosquitoes can be carried into your hurst from some other and equally delinquent hurst by the winds, if they be strong and fierce—those winds. But the immigrant insects will not stay permanently where they cannot breed. Nor do mosquitoes, as a general thing, travel much beyond 300 yards; certainly not at the utmost beyond half a mile from their breeding places.

Recommends Some Temporary Measures

"You want to know precisely what steps must be taken? I am glad you ask that, Easybird; it shows you really mean business.

"To go to it then: Petroleum oil (semi-refined, which is less expensive than refined, and more practicable than crude oil) should be used temporarily and not as a valid and permanent means of mosquito destruction. Drainage and filling up the wet places are the surer ways. Oil destroys the wrigglers by choking up their breathing apparatus. One ounce of oil should cover up fifteen square feet of water surface and will remain ten days. Should the wind blow it aside, the oil will generally return when the wind changes. And though eggs may meanwhile have been laid, the returning oil will suffocate the new larvae.

"An ordinary garden sprinkler may be used; or a knapsack sprinkler from which the operator on shore or in a boat may project the oil several yards.

"Goldfish, sticklebacks, minnows, sunfish, the little fish called millions (which find the larvae delicious tidbits), are well enough for garden fountains; but they will not solve the mosquito problem, nor will insectivorous bats, or birds or water fowl.

Takes Community Action to Kill Pests

"With regard to Stingemhurst as a whole: If you people want to be mosquito free, you must take community action. You have to forget your uppish wealth and be neighborly, and the first thing that you will have to do is to engage a sanitary expert. Pay him what he asks. If you are far seeing you will conclude that in addition to what you have agreed on, he will be entitled to a handsome bonus into the bargain. And everybody will have to get busy—the press, the school teachers, the clergy, the ladies' societies, the board of trade.

"I am going finally to tell you something, Easybird, and I hope you won't feel bitter about it. You Stingemhurstians, for all your wealth and all your preposterous social assumptions, have not one really big-calibered man among you—except the young doctor, to whose merits and to whose courage you have been oblivious. I will put it this way:

"When I was in Holland, I visited the very modest little cottage in which Peter the Great lived while he was learning ship building. Within is a fine portrait of that real man, with this legend underneath: *Den Grooten Man is Niets te Klein;* which means, being interpreted, 'To the great man nothing is too slight for consideration.'

It Was Done in Panama

"Our federal government sent that kind of a man down to the Canal Zone—the late Surgeon-General Gorgas. And let me tell you that it was this Gorgas and no other who made the Panama Canal possible. That was because he and his associates turned the most pestilential spot on the footstool—bar none—into one so healthy that not half a dozen villages, towns or cities in the whole United States could get under its death rate.

There hasn't, this decade or so since, been in that Canal Zone a single case, indigenous to its soil, of malaria, or yellow Jack, or infectious dysentery, or typhoid.

"Are you going to lie down on this record and admit that your dinky little hurst cannot be made as mosquito, or as infection free as Panama? Are you going to let your dear children suffer from a preventable disease—suffer in the way it grips one's heart strings to see. Are you? I pause for a reply."

Here, to Easybird's great relief, we reached his home. All the same there was a gleam in his eye that was indicative of much.

A note had come written in the third person in the best commuter amenity style from Mrs. Delamater O'Shea in answer to that of Mrs. Easybird.

Mrs. Delamater O'Shea begged to make her compliments and acknowledgements to Mrs. Easybird, and would Mrs. Easybird perhaps trouble herself to the extent of going up and taking a look at her own roof gutters.

Medical Research and the Discovery of Insulin

F. G. BANTING

AT THIS moment it is revealed to us that medicine has come to a new birth," wrote Sir Clifford Allbutt in 1919. He then described this new birth as "nothing more or less than the enlargement from an art of observation and empiricism to an applied science founded on research."

To trace the development of the factors that brought about this change would be to outline the highlights of medical history. Though all time the men in medicine who have stood above the ordinary have been those men, who, with minds of high order, starting from the proved facts of science, extended the domain of knowledge into the unknown, through patient, discriminating and skilful pursuit of research.

Highlights in Medical History

The remote beginnings of medical research are to be found a thousand years before Hippocrates. Five hundred years after this great father of medicine, Galen compiled the accumulated knowledge and added to it his own observations. His writings dominated the history of medicine for nearly a thousand years.

Modern research may be said to commence in 1543, when Vesalius published his "Fabrica." Following this, came the works of Gesner, Paré, Harvey, Malpighi, Borelli and Sydenham. By the investigations of these six epoch-making figures in medicine, research received a new impetus. Schwann, Bernard, Müller, Virchow, Haller and Morgagni became the pioneers of physiology and pathology. Morton, Warren and Simpson discovered anesthesia. In 1796, Jenner inaugurated the vaccine for preventing smallpox, thereby eradicating this ravaging disease from all areas where vaccination and revaccination are effectively carried out.

Pasteur disproved the theory of "spontaneous generation" and founded the science of bacteriology. He applied the facts of his investigations and made anthrax and hydrophobia preventable and curable maladies. Lister's work established the principles of asepsis, and paved the way to modern surgery. Reed, Carrol and Lazear sacrificed their lives to make yellow fever areas safe for human habitation. Ross conquered malaria.

Wright, by his discovery of antityphoid vaccine, has, within a few years, reduced typhoid fever to a comparatively rare disease. No better proof of its effect can be given than by a comparison between typhoid fever during the Boer War and the Great War. During the South African campaign, 548,000 soldiers served for two years and seven months; out of every 1,000 soldiers, 123 contracted typhoid fever; altogether 8,248 died of the disease; in other words, more died of typhoid than were killed in action or died of wounds. In the Great War, 420,000 men served for four years and three months; out of every 1,000, only one contracted typhoid fever; altogether there were only fourteen deaths from the disease in the whole Canadian army during the entire war.

One Discovery Leads to Another

The physician and patient of today accept this accumulation of knowledge without question, but we must remember with Sir Michael Foster that:

"What we are is in part only, of our making, the greater part of ourselves has come down to us from the past. What we know and what we think is not a fountain gushing forth from the barren rock of the unknown at the stroke of the rod of our intellect; it is a stream that flows by us and through us, fed by the far-off rivulets of long ago. What we think and say today will mingle with and shape the thoughts of men in the years to come, so, in the opinion and view that we are proud to hold today, we may, by looking back, trace the influence of those who have gone before."

Research is built on research. Roux was led to his investigation of diphtheria antitoxin by the work of Pasteur. Von Bering, following researches of Roux and Yersin, produced the first diphtheria antitoxin. Roux applied the antitoxin treatment and not only decreased mortality from this disease by 75 per cent., but also by a study of its infectivity, abolished the ravaging epidemics previously so common.

How Insulin Was Discovered

It is given to few men, as was given to Pasteur, the opportunity to found new sciences and to open up new fields. It was the good fortune of the Toronto group of workers to be permitted to add something of practical importance to the long series of previous investigations in the way in which the body digests and utilizes sugars.

In 1889, von Mering and Minkowski observed that the complete removal of the pancreas produced a severe and fatal diabetes in dogs. Five years previous to this, Villiard and Arnazon had tied the tubes leading from the pancreas and found that the animals did not become diabetic, but that the pancreas shriveled up. Other investigators, using a microscope, found that certain cells of the pancreas—the islands of Langerhans—were not involved, but that it was the other cells which disappeared.

Minkowski was the first to conceive the idea that an extract of the minced pancreas injected into a diabetic dog might relieve the symptoms. Caparelli, Battistini and Vanni prepared extracts and reported favorable effects, but their results were not confirmed. Unfortunately, the injections were accompanied with pronounced toxic effects, which overshadowed any benefit derived.

Following the discovery by Schafer that an extract of the thyroid gland administered to sufferers of thyroid insufficiency relieved symptoms, a large group of observers, including White, Mackenzie, Wills and Sibley, endeavored to supply the deficient hormone in diabetes mellitus, by giving extracts of the pancreas. Their results were not conclusive. Zuelzer, in 1908, by use of an alcoholic extract of the pancreas, obtained favorable results in five cases of diabetes mellitus, but unfortunately toxic results made the continued use of the extract impossible.

Following the discovery by Diamare and Rennie that the islet cells exist separate from the other cells in bony fishes, Rennie and Fraser fed the principal islets of these fish to diabetics, but were unable to show beneficial results. They found this substance too toxic for injection purposes. The search for the elusive hormone was not given up, however. Kleiner, Murlin, Scott and Paulesco continued the physiological investigations on laboratory animals.

In 1912, E. L. Scott prepared alcoholic extracts of the pancreas, and showed that these extracts sometimes relieved certain of the symptoms of diabetes in animals. He endeavored to tie off the pancreatic ducts and to extract the remnant of the pancreas after it had digested the remaining cells, but unfortunately his operation was not followed by complete disappearance of the cells.

This was probably due to the fact that his ligatures were tied so tightly that they caused sloughing of the underlying tissue. Fibrin—the blood clot—was deposited on the surface and the tube was reestablished. Furthermore, Scott was not satisfied with the methods of estimating the percentage of sugar in the blood, and consequently left the problem, which he almost solved, in order to obtain more precise methods.

In 1913, Murlin prepared alkaline extracts of the pancreas and also of the small intestine, and demonstrated that they reduced the elevated blood sugar in diabetic dogs. However, he found that this result could be obtained by the administration of alkalis alone, and the investigation was abandoned. After the war Murlin resumed his investigations and found that the administration of perfusates of the pancreas was followed by an elevation of the respiratory quotient. Thus, he could restore to the diabetic animal some of its lost power of burning carbohydrates.

However, despite the many investigations, in 1920, so vague were facts, that even so great an authority as J. J. R. Macleod stated in his textbook that there is as yet no proof of the existence of the internal secretion of the pancreas, and that there is no proof against the theory that the islet cells are detoxicating centers.

Concerning the solution of the problem, he states: "This consists in seeing whether the symptoms which follow removal of the pancreas are removed and a normal condition reestablished, when means are taken to supply the supposed missing internal secretion to the organism; if they should be, conclusive evidence would be furnished that it is by 'internal secretion,' and not by 'local influence' that the gland functionates."

Canadians Set to Work

In an article in the medical periodical, *Surgery, Gynecology and Obstetrics* (November, 1920), Moses Barron pointed out the similarity between the degeneration which occurs in the pancreas following experimental tying off of the tubes leading from the pancreas, and the blockage of ducts by gallstones. This led to the deduction that by this means one might be enabled to get rid of the products of the cells in general and to obtain the product of the islets,

free from the destroying influence of digestive ferments.

With this idea, the work on insulin was commenced about the middle of April, with Mr. Charles H. Best, in the department of physiology, University of Toronto.

We first succeeded in showing that the blood sugar of diabetic dogs could be reduced to its normal level by the administration of extracts made from the pancreas of dogs, in which the ducts had been tied from seven to ten weeks. Furthermore, the administration of these extracts rendered the diabetic animals sugar free, and caused a marked improvement in their clinical condition.

Next we showed that extracts made from the pancreas of dogs whose cells had been exhausted by the long continued injection of secretin contained a relatively large amount of the antidiabetic principle, but that these extracts were usually more toxic.

Laguesse had found that there were comparatively more islet cells in the pancreas of the new-born than the adult. Ibrahim was unable to obtain any conclusive evidence of the presence of active protein digesting enzyme in the pancreas of the human fetus till after the fourth month of intrauterine life. The third type of extract was obtained by extracting the pancreas of fetal calves of under four months' development.

The work progressed more rapidly because of the more readily available supply of material furnished from the fetal pancreas. We were soon able to extract the active principle with alcohol from the whole adult beef pancreas. This extract was tried with favorable results on three patients in the wards of the Toronto General Hospital.

Division of Labor in Research

At the present time medical research is specialized and there is in it, as in all organized walks of life, division of labor. At this stage of our investigation, the Connaught antitoxin laboratory, under the directorship of Profs. Fitzgerald and Defris, provided Mr. Best and Dr. Collip with the facilities for the manufacture of insulin. Prof. Duncan Graham of the department of medicine established means whereby Drs. Fletcher and Campbell could investigate its clinical value, and Prof. J. J. R. Macleod abandoned his work on anoxemia and turned almost his whole laboratory staff on the investigation of insulin.

Under his direction various problems were allotted to pairs of workers and an unparalleled amount of information was gained in a comparatively short time. Not least among these collaborators was Prof. Henderson, in whose department I held my appointment.

I have elaborated at considerable length on the history of the development of insulin, because it exemplifies the fact that research is built on research. At the present time, we have insulin, but we do not know the exact manner of its action. We know that the deficiency of insulin is the cause of diabetes, because when this deficiency is supplied, the symptoms are relieved, but we do not know the cause of the deficiency. We know that the insulin mechanism is related to other glands of internal secretion, particularly the suprarenals, but we are far from a complete knowledge of their interaction, without which a complete understanding of the disease cannot be attained.

Diabetes is not solved. The pathological findings do not bear an exact relationship to the clinical severity of the case.

Recently Dr. Joslin of Boston sent the pancreas of a patient who died in diabetic coma to Mr. Best, who was able to extract from it abundant insulin. Mann has found that the removal of liver in dogs is followed by a rapid and extensive fall in the percentage of sugar in the blood. Bornstein and Holn, working in Germany, and we, in our own laboratory, have found similar fall is obtained after the removal of the suprarenals. Pituitrin augments the action of insulin. Mr. Best has been able to extract insulin from the tissues of every organ of the animal body. Woodyatt and others have injected very large quantities of glucose into animals and cannot adequately explain its disappearance.

These and other unexplained problems challenge the research worker in carbohydrate digestion at the present moment. Their explanation is necessary before diabetes can be explained and its cause known. I shall not be satisfied until the cause of diabetes is understood and until preventive treatment is instituted or until the early and mild cases at least can be adequately controlled.

Discoveries Come When World Is Ready

This history of medicine has shown that discoveries usually come when the time is ripe for their reception. Had insulin been given to the world fifteen years ago, we would not likely have had the valuable contributions of Allen, Joslin, Woodyatt, Wilder and others in the important field of dietetics. Nor would there have been accurate methods for estimation of blood sugar, acetone or respiratory quotients.

The discovery of insulin, in turn, opens up new and wider fields and in like manner every research in the field of medicine assists the advancement of other branches. Here we find further reason for urging research. When the scientific world is ready the cause and cure of cancer will be forthcoming.

The results of the combined efforts on the part of medical research workers has led not only to the alleviation of human suffering, but also to the prolongation of human life. Quoting

Dr. John R. Williams of Rochester, "In the seventeenth century in London, from what is known, the average age at death was twenty-one years. Seventy-five years ago it was thirty-five years. Today, it is nearly sixty years."

From statistics available, it is estimated that an average of ten years has been added to the expectancy of life during the past twenty-five years. A medical actuary expert in discussing this subject said "our annuity system has gone blooey." Referring to this insurance company he said that during the past year they had paid out $400,000 in annuities in excess of their estimates.

The greatest contributory factor in producing this result has been the activities of preventive medicine. Ravaging epidemics of diphtheria, smallpox, typhoid and all the communicable diseases have been investigated, understood and controlled. Even tuberculosis is being curtailed.

Inward Joy of Discovery

How have these blessings come to us?

They have come from the minds of individuals who have the true research spirit. From a study of the lives of such men as Pasteur, Lister and Bernard, one is convinced that it was the highest of ideals that compelled them to work. There was no desire for fame, publicity or self-aggrandizement, but for the inward joy of discovery.

Well may Mark Twain ask the question, "What is it that confers the noblest delight, what is that which swells a man's breast with pride above that which any other experience can bring him? Discovery." This inward joy is the greatest source of inspiration for further work. Inspiration that comes from without is of a positive and negative character; the former in the way of kindly, helpful encouragement of friends, the latter in the way of doubtful, pessimistic, destructive criticism of individuals, who try to dampen enthusiasm.

Research work calls for a special type of mind. It is possible to draw a rough distinction between the teacher and the original investigator. While the former must be well informed and capable of imparting his knowledge, the research man must add to his knowledge a facility for constructive association of ideas.

Place of Research in University Life

Henry S. Pritchett, president of the Carnegie Foundation for the advancement of teaching, says: "The part that research ought to play in medical education is so necessary and so vital, that its importance cannot be overestimated. On the other hand, so-called research offers the rarest opportunity for exploitation which our institutions contain (although this process has not reached the same stage in the professional school that it has reached in the college and the university). Every college and university covets the reputation of being a center of research. It is more anxious that its teachers should have the name of conducting scientific investigations than that they should be able to teach fruitfully and successfully. The result of this striving is that the thing that ought to be the greatest inspiration toward good teaching has become too often an excuse to escape the primary duty of teaching."

We do not know whence ideas come, but the importance of the idea in medical research cannot be overestimated. From the nature of things ideas do not come from prosperity, affluence and contentment, but rather from the blackness of despair, not in the bright lights of day nor the footlights' glare, but rather in the quiet undisturbed hours of midnight, or early morning when one can be alone to think. These are the grandest hours of all, when the imagination is allowed to run riot on the problem that blocks the progress of research, when the hewn stones of scientific fact are turned over and over, and fitted in so that the mosaic figure of truth, designed by Mother Nature long ago, be formed from the chaos.

In the medical literature of today, we have textbooks, scientific treatises, journals and magazines. One wonders if there is an end of knowledge. I fancy the pages that are covered with cancer literature, if spread out, would cover the state of Illinois. Yet, its solution is not at hand. I sometimes wonder if we are helped by too full a knowledge of medical literature. I must frankly confess that, had I read all that was written on diabetes and known all of the conflicting views and theories, I would probably never have tackled the problem.

Must Put "Affections in Cold Storage"

The young man who devotes himself to medical research must familiarize himself with the first paragraph of Osler's "Alabama Student." It begins as follows:

> Chief among the hard sayings of the Gospel is the declaration, "He that loveth father or mother or son or daughter more than Me is not worthy of Me." Yet the spirit that made possible its acceptance and which is responsible for Christianity as it is—or rather, perhaps, as it was—is the same which in all ages has compelled men to follow ideals, even at the sacrifice of the near and dear ones at home.

The man who wishes to make a success in research work must be prepared to work. He must sever his connections with labor unions that restrict the hours of his labor. He must be prepared to live, move, and have his being in the laboratory, eating and sleeping beside his work, if need be. Matrimony and research have seldom gone together. Very many brilliant young men have been overwhelmed by domestic responsibilities and have been lost to research. Here again it is well to quote Osler: "Put your affections in cold storage."

The vital statistics of the city of Toronto illustrate the fact that whereas infant diseases, infectious diseases, including tuberculosis, show a marked decline in death rate, there is, on the contrary, a marked increase in deaths from heart, artery and kidney disease, cancer and diseases of metabolism. A glance at these vital statistics shows a tremendous increase in mortality from cardiovascular-renal disease. In the city of Toronto in 1913, there were 858 deaths as compared with 1,353 deaths in 1923, or an increase of about 60 per cent. During the same time the population increased from 445,000 to 529,000, or an increase of approximately 20 per cent. In the same period of time, deaths from cancer increased from 336 to 605, and tuberculosis decreased from 467 to 351.

It is evident, therefore, that cancer, terrible as it is, accounts for less than half the number of deaths that are attributable to heart, arteries and the kidneys. There, is, thus, abundant opportunity for the young man with ideals, ideas, enthusiasm and willingness to work.

Medical research is the most truly international commodity we possess. It knows no protective tariff, no embargo, no boundary line to prevent its free dissemination for the good of all. At present it is the common language and common spirit among the nations.

May I make bold to hope that American and Canadian science, depending as it does on the efforts of individual minds, may harmoniously progress hand in hand, until that day is reached when they shall have contributed the maximum of good to the greatest number, and have brought the people at large to realize that science is the search for truth, that a true knowledge of God's creation dispels superstition, fear and disease, brings happiness, peace and prosperity, and leads to that humility with which the informed intelligence recognizes the omnipotence of the Creator?

What Do We Talk About?

AND when I wouldn't give him a date for the next night, he got sore———."

"There wasn't a bank in town that would lend us a nickel in those days. Now———."

With women it is men, and with men it is business! At least that is what three psychologists have found, after analyzing chance conversations of persons on Broadway and in Columbus, Ohio.

Well Persons Rarely Discuss Health

As for health, it has little conversational interest to anyone who is well.

Listening in on the conversation of others has always been an absorbing pastime, and many a dull journey has been enlivened for a lonely traveler by overheard conversation.

Two psychologists, M. H. Landis and H. E. Burtt of Ohio State University, recently analyzed 500 conversations which they overheard in that community, with a view to finding out what are mankind's chief interests. They compared their findings with those of the psychologist, Henry T. Moore, who several years ago made a similar analysis in New York of conversations heard on Broadway.

The two Ohio scientists included in their investigations the conversations of persons in restaurants, at basketball games, in theater lobbies, in front of store windows, on the university campus, in barber shops, in churches and on the street.

Business and Amusements, Men's Topics

Conversations were classified under ten headings: business and money, men, women, clothes and decoration, sports and other amusements, college work, health, self and weather. The results at Columbus, Ohio, in general agreed with those observed on Broadway. The psychologists tell of their finds in the *Journal of Comparative Psychology*.

Men's most frequent topic is business—49 per cent. in Columbus and 48 per cent. in New York. If sports and other amusements are combined, these topics have a frequency of 15 per cent. at Columbus and 14 per cent. in New York. The third topic of men's conversation is men—12 per cent. in Columbus and 13 per cent. in New York.

Men and Clothes Are Women's Favorites

Women's leading topics are men, 22 per cent., and clothes, 19 per cent. For New York, the figures were men, 44 per cent., and clothes, 23 per cent. The next topic is other women, about 15 per cent.

In mixed company, men most frequently talk to women about amusement, and next of business and money. They further seem to talk to women considerably about themselves—17 per cent.—which is more than when talking to other men.

Women most frequently converse with men about amusement; secondly, about clothes; thirdly, about themselves and about men.

The results were classified also as to the social status of those concerned. Business people talked about business and money in 70 per cent. of cases, as compared with 43 per cent. for industrial workers and 9 per cent. for students.

Although health was one of the subjects catalogued, it is important to notice that it had little interest for those who were well.

The Eclipse of Magic in Medicine

RAY LYMAN WILBUR

MAN has always faced the unknown either with fear or faith. The forces in his environment compelled his attention. Most men bowed their heads to the apparently inevitable. Some escaped where others fell a prey. Lightning, flood, and disease seemed to make human choices in their tragedies. Primitive people personalized many of the phenomena of nature and by sacrifice or in other ways sought to ward off evidences of disfavor.

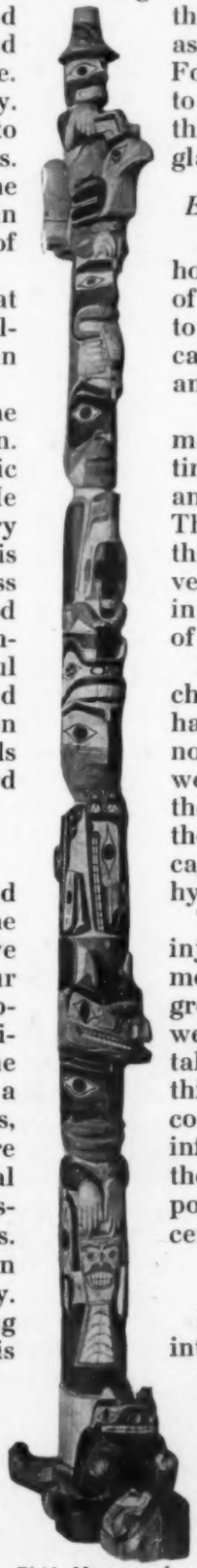
The oldest profession in the world is that of sorcerer or man of magic who specialized in the protection of his fellow man from the terrors of the unknown.

The magic incantation is said to be the oldest fact in the history of civilization. The chant or spell of the man of magic laid the basis for music and poetry. He was the first human agent, although a very crude one, to practice medicine. From his activities there came by a gradual process of evolution the experimental method around which science is building its impregnable citadel of truth. The beautiful flower of science grew up out of the mud of superstition, magic, and deceit as soon as some men were able to free their minds to fact, to observe carefully and to record their observations.

Many Still Worship the Mysterious

That growth is still fragmentary, and most of our race have their eyes on the mud rather than on the flower. Even we who pride ourselves on the height of our civilization still have myriads of worshipers at the shrine of the vague, the mysterious, the occult, the impossible, and the supernatural. In all of us there is a residue, large or small, of inherited dreads, beliefs, and superstitions, and a faith more or less certain in the fallacious. The mental effect of thousands of years cannot be dissipated in a few decades or centuries. Science still has much of its way to gain in the personal service of mind and body.

Credulity is one of the most charming attributes of the human species. It is fortunate indeed for our sense of joy and humor that only a comparatively few of us are "from Missouri" on all occasions. Fed fairy tales as soon as we can appreciate formulated ideas, brought up on a literature full of allusions to impossible gods and goddesses, raised in an atmosphere polluted by fable and fancy, is it surprising that pseudoscience is often more attractive than the reality, that we accept dogmatic assertion for truth, that we still seek the Fountain of Youth, even though we do go to the slaughter house now for it rather than follow Ponce de Leon to the everglades of Florida?



Field Museum of Natural History

Early Medicine Was Branch of Magic

As we look back, we see the uncounted hosts of our ancestors living for thousands of years without the feeling that has come to us with our scientific discoveries that we can rest secure on the immutable laws of an orderly universe.

They had to have devils, demons, gods, magicians, to propitiate or to help them in times of strain and adversity. Sickness and death have always been with man. The facts regarding them were so tragic that man for his comfort sought for prevention and for cure. Thus medicine, used in its broad sense, early became a branch of magic.

Evil spirits were thought to bring about changes in the body of man as well as to have the power of varying natural phenomena. Since, being evil spirits, they were always busy, something to ward off their activities had to be devised. Given the attributes of man, they were frightened, cajoled, propitiated, fed by incantations, hymns of praise, and sacrifices.

The clinical evidences of disease and injury often demanded the attention of the most primitive of folk. Gradually there grew up a group of men and women who were shrewd observers and of better mentality than the rest. They learned something of disease, of its often self-limited course and of methods of treatment. This information was passed along and, full though it was of sham and fraud, it had a portion of common sense and fact as its central core.

Man Has Always Been Fatalistic

Besides then, just as today, men were intrigued by the mysterious. Successes were heralded abroad and failures were minimized. Man knows that he is to die and always has a concealed fatalistic viewpoint which helped the sorcerer of the past and aids the charlatan of today.

The remarkable control of the body by its masterful nervous system, and the

impressionable character of the thing we call mind, the qualities of spirit which overcame pain and torture and withstood disaster, gave a wide range to all sorts of phenomena based on suggestion, hysteria, hypnotism and the will to believe. The scarab without its inscription would have been as impotent as the modern patent medicine bottle without its label and background of distorted publicity. The mind had to be attacked in all treatment. The more one knew about the mental actions and reactions of the curious animal called man, the better were the chances of success in treating changes in his body of unknown origin.

The magic knot employed by the sorceress, the knots used as countercharms against disease in the ages gone by, are now arranged in a series with a new form of incantation, but they work in the old way.

Magic was the basis of a thought system which still is with us, although experiment and discovery have changed our whole outlook on the material phases of the world. It is a mental state subdued in the most civilized, but coming as a primitive inheritance to us all. Its significance has been overcome by the sheer development of science based on the experimental method; but even today its dominion over man is supreme among many races and potent in all nations and peoples.

International

This South African magician is believed by his tribe to possess the power to heal both bodies and souls.

While we have established truth as against magic, we have not changed man's mind as rapidly as we have found out new facts.

People Crave the Sensational

As Thorndike put it, "However, I suspect that it is not so much that magic has been shown to be false, as it is that men have come to set a greater value on truth, that accounts for magic's decline. As I survey the practice and beliefs of primitive and savage tribes or the columns of modern newspapers and much of modern literature, I become convinced that men have a natural tendency to assert, and craving to hear the sensational, exaggerated, and impossible, and to fly in the face both of reason and experience. People take pleasure in affirming the extravagant and in believing the incredible, in saying that they have seen or done what no one else has seen or done. Cows, for instance, seldom or never burst, as everyone knows perfectly well, primitive man better than civilized; that is what makes it interesting to mention circumstances under which they will burst. 'Lord, I believe, help Thou my unbelief' is a good picture of the mental attitude supporting much of magic, which may be not so much a matter of belief as of make-believe."

The fact that the mind of man has been far behind its intellectual possibilities and farther still behind its advanced leadership has always helped the magical and the make believe in medicine. When discoveries can be turned into cash they promptly overcome tradition, habit and the prejudiced mind. Once brought into regular use, they may mold the thought of a whole generation. Spooks went out when the electric lights went on, but the will to believe in ghosts, the desire to have shudders along the back bone when passing a cemetery, remain.

Science Began with First Real Experiment

Nevertheless the power of truth is growing. On the day when real experiments began, science was founded. Digested and recorded human experience, carried into individual and communal life by religion, gave the Jewish race its permanency, but scientific curiosity does not seem to have played a part in making the rules. It is impossible to know where and when real experiment began. Our studies of prehistoric man, of the Babylonian and Egyptian civilizations, and particularly of the Greeks, show that there was a gradual evolution and growth of science from within the very midst of magic, superstition and demonology. It began when man asked why and made tests. Its birth came with a new point of view, that of facing the facts.

Archimedes did wonderful things, but he showed, too, that other men could do them as well. No magic was needed; when the laws of nature were known they could be depended on

to repeat the same results under the same conditions.

Aristotle, Hippocrates and, at a later date, Galen brought biology into the light and applied the experimental method to man and to the relief of his ailment. They and their successors had to struggle against ignorance and the power of the magical on the human mind. Pliny complains that the follies of magic have made men doubt whether plants possess any medicinal qualities.

The divining rod and the absurd were popular then as now. The prescription of two thousand years ago to cure a cough by expectorating in a frog's mouth and to cure catarrh by kissing a mule have their modern counterparts. The need of training for the practice of medicine was urged by those of scientific bent, but that there is nothing new under the sun is shown by Galen's charge against Thessalus that he secured many pupils by offering to teach them medicine in six months, thus causing tailors, dyers and smiths to abandon their arts to become physicians.

Man's Knowledge Is Still Meager

Science and medicine built, piece by piece, and through the centuries a definite structure of fact. Incomplete and inadequate as these facts were they served man and began to change his life, his thoughts, and even his religious beliefs. They required disciplined thinking and training.

With the establishment of universities, the invention of printing, the development of transportation, and the growth of more stable government, conquest succeeded conquest in the realm of fact. Diseases became classified, distinguished from symptoms and better understood. The microscope and the test tube began their series of revelations. Symptom complexes became mere evidences of the life histories of microscopic parasites played out with the human body as the scene of action. Preventive medicine based on discovery crept into legislation and the lives of individuals, communities and nations. The discovered laws in the fields of life and medicine were found to be as dependable and unchanging as the courses of the stars. While man's knowledge has expanded beyond any limit set by the imagination it is still but a trace of what he will ultimately know.

There is no reasonable probability that even what is known can soon be made universally applicable in medicine, for with the development of the democratic idea of government, and the plan of the rule of the majority, complete results can only follow full appreciation and conviction.

The magical idea in medicine is still with us. Many are unconsciously controlled by the things they want to have so, rather than by the things

International

A South Sea Island "medicine man" in the full robes of his office

that are so. As Conat says, "Medical magic like all magic is man's belief in his own omnipotence, a feeling that his desires and wishes will in some expected or unexpected manner, become realized."

Truth Is Winning Out

Nevertheless truth is winning its way both in the hearts and minds and lives of men. Medicine, magic and religion once closely interwoven in our civilization, and still presenting a common front in some savage or partially civilized races, are now becoming more widely separated as social processes. While there are still those among us who have a magico-religious attitude, for the most part disease is being recognized as a series of phenomena subject to natural and discoverable laws, to be dealt with in medicine as are other processes of nature.

Following along with our advances into the unknown go most of the educated of our race. There is an increasing reliance on the expert who lets light into the dark places. There is a growing desire on the part of the expert to view all sides of the phenomena which his studies

bring to his attention. Content for a time to view the treatment of man's ailments from a strictly material standpoint, he now sees that he must view man in his struggle with disease as a sensitive, thinking and socialized organism, requiring normal and religious concept for his control and happiness. He sees too that he is dealing with a human stock subject to laws of inheritance and varying greatly in bodily and mental attributes. The expert has brought prevention into every part of our communal living.

As Morison says, "Medical science has nearly solved the problem of health. The amount of exercise and nourishment, the kinds and qualities of foods and drinks, the limits of work and relaxation, the salubrity of sites and dwellings and clothing, these and similar topics connected with the health of the body physical are so fairly well understood that any one with a moderately strong constitution, amenable to good advice, may keep in satisfactory health.

Body Breakdown Will Bring Scorn

"The paramount importance of health for the adequate discharge of public and private duties can escape no one. It is probable that in a reformed public opinion of the future, a breakdown in health, when obviously caused by excess or imprudence, or culpable ignorance, will be regarded as a species of bankruptcy, and severely judged. A servant of humanity has no right to be unable to perform his duties.

Health has become an individual or social asset capable of development and of protection. That nation with the best human stock and largest store of health will win the world's prizes. We have obtained our greatest results by known health laws becoming a part of that legislation which controls our common life together, but here as elsewhere there must be education of the people to obtain their intelligent support and cooperation. As Hand puts it, "Public law can only avail so far as it manages to carry with it the moral assent, not only of those who impose it, but of those on whom it is imposed."

Doctors Must Keep Up Search

Antivaccinationists, antivivisectionists, faith healers and others require our patient efforts to show them the facts of science. We must eliminate patent medicine by finding better ways to meet the ailments and pains of anxious, fearful, suffering humanity.

When the practitioners of medicine can fully meet the problem of disease, society will rely on them as completely as it now does on electricity used in the telegraph and telephone. We need only to keep up our almost feverish search for truth, our love of it when found, and our efforts toward general education to see the eclipse of magic, which is now partial, become total. Science has come to serve man, and new philosophies and new securities for our future will come.

Fake Health and Beauty Columns

False Beacons for the Good Ship "Health"

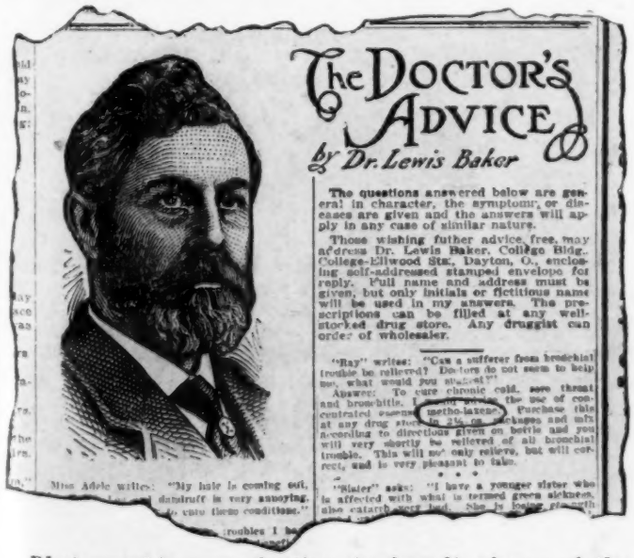
ARTHUR J. CRAMP

IN WHAT we are sometimes pleased to call the good old days before the seven seas had been made as safe for the mariner and his cargo as they are today, the wrecking of ships was a well-established business in certain parts of the world.

Usually it was carried on by hardy natives living on a coast that was dangerous and yet close to the much-traveled sea roads. In those days there had not been developed our present elaborate system of lighthouses, lightships and bellbuoys, and the wrecker plied his trade by lighting beacons on some rocky headland so that the mariner would be misled and drive his ship ashore. And the wreckage made rich pickings.

The business, though involving theft always and murder frequently, seems to have been accepted by those who followed it with a complacency that carried with it a degree of respectability. We read, for instance, that the Cornish wreckers went straight from church to light their beacon fires.

Luring ships to destruction by lighting false beacons has ceased to be the industry it once was, but the flying of false health signals has in more recent years offered an easy living to the quack and nostrum vender. And, as nothing succeeds like success, we find that when the profits in such businesses have reached sufficiently magnificent proportions, society views the result with tolerance tinged with envy.



The DOCTOR'S ADVICE
by Dr. Lewis Baker

The questions answered below are general in character, the symptoms or diseases are given and the answers will apply in any case of similar nature.

Those wishing futher advice, free, may address Dr. Lewis Baker, College Bldg., College-Ellwood Sts., Dayton, O., enclosing self-addressed stamped envelope for reply. Full name and address must be given, but only initials or fictitious name will be used in my answers. The prescriptions can be filled at any well-stocked drug store. Any druggist can order of wholesaler.

"Ray" writes: "Can a sufferer from bronchial trouble be relieved? Doctors do not seem to help me, what would you suggest?"

Answer: To cure chronic cold, sore throat and bronchitis, I recommend a [illegible] concentrated essence, mentho-laxene. Purchase this at any drug store in 2½ oz. packages and mix according to directions given on bottle and you will very shortly be relieved of all bronchial trouble. This will not only relieve, but will correct, and is very pleasant to take.

* * *

"Sister" asks: "I have a younger sister who is affected with what is termed green sickness, also catarrh [illegible]. She is [illegible]

Miss Adele writes: "My hair is coming out, dandruff is very annoying, [illegible] into these conditions."

Photographic reproduction (reduced) of one of the first advertisements of the "Dr. Lewis Baker" column. There was nothing about this to show that it was an advertisement.

During the past ten or fifteen years the health column of the daily newspapers has become an established feature. Some of the more widely syndicated of these columns are written by men having both medical knowledge and literary ability. The information that such departments give is sound and the suggestions they offer are helpful. The public has recognized the value of these features and the legitimate health column, read by tens of thousands daily, has done much to interpret the aims and possibilities of scientific medicine to the lay reader.

Everything worth while in this world is counterfeited. The health column is no exception and certain nostrum exploiters were quick to adapt their penchant for misrepresentation to the capitalization of the public's interest in, and respect for, this legitimate newspaper feature.

Dr. Lewis Baker

One of the first false beacons of this type emanated from Ohio. It came from a "patent medicine" concern founded by men with no claim to medical knowledge. Ten or fifteen years ago there began to appear in certain newspapers what, to the uninitiated, seemed to be a new health column.

It appeared first under the title "The Doctor's Answers on Health and Beauty Questions" and later under the terser caption "The Doctor's Advice." The "doctor" who answered the questions and gave advice was Dr. Lewis Baker whose much-bewhiskered picture formed an important part of the column heading. The column itself was made up exclusively of answers, each answer recommending a prescription which, the reader was told, could be "filled at any well-stocked drug store."

The prescriptions called for one or more ingredients and the "joker" lay in the fact that at least one of the ingredients was always a "patent medicine" sold by the concern that was running "The Doctor's Advice" column as an advertisement.

There was nothing to indicate to one not familiar with drugs that all of the ingredients recommended were anything but official drugs. Take, for instance, this specimen answer:

> *Mrs. J. J.:* Hundreds of women suffer as you do with womanly ills, and grow worse each year because of neglecting to treat that weakening disease commonly termed "whites" or leucorrhea. It is a frequent beginning of serious complications often requiring dangerous operations. Obtain of

druggist 2 ozs. vilane powder, 1 oz. tannic acid and 1 oz. sulphate of zinc. Mix all together and use a teaspoonful to a quart of warm water twice daily as an injection or douche. Use whenever the parts need cleansing and a cure should result in a short time.

The catch in this particular answer was Vilane Powder. This the public was told was a "concentrated powerful antiseptic germicide and disinfectant." When Vilane Powder was analyzed, some years ago, by the state chemists of North Dakota it was reported to be but a simple mixture of washing soda, baking soda, common salt and sodium salicylate perfumed with thymol and without any germ-killing power.

Another preparation advertised in the same way was Mentho-Laxene. This product was analyzed by government chemists a few years ago and, on the basis of what they found, the claims made for it were declared false and fraudulent and applied knowingly and in reckless and wanton disregard of their truth or falsity.

Still another product put out by the same concern, and advertised as part of "The Doctor's Advice," was Compound Fluid Balmwort, recommended as a cure for catarrh, rheumatism, diseases of the kidneys, impure blood, carbuncles, ringworm and several other things. It, too, was analyzed by the chemists of the United States department of agriculture and declared a fraud.

Claire Ainsworth's Column

The same concern that put out the Dr. Lewis Baker advertisements also used another column to exploit nostrums of the cosmetic type. This was entitled: "How to be Beautiful: Secrets of Health and Beauty" and the suggestions offered under this title were said to be by Claire Ainsworth who was described as a "marvelous

How to be Beautiful
Secrets of Health and Beauty
by Claire Ainsworth

The Claire Ainsworth column was put out by the same concern that published the Lewis Baker material. It appealed, however, more particularly to women.

A Trio of Beauty Secrets That Made Valeska Suratt Famous
Graciously Revealed By Valeska Suratt, the World's Most Famous Self-Made Beauty
Wrinkles Will Surely Go, A Pearly Skin Will Surely Come, and the Form Will Take on a Glorious Contour of Unrivaled Beauty
Valeska Suratt and Her Tiger
You Will Marvel At The Change In Yourself When You Look In The Mirror A Short Time After.

The Valeska Suratt Questions and Answers series of advertisements were elaborate and expensive. Here is a miniature reproduction of one of the first pieces of copy put out.

beauty" and a "talented concert singer." Thus one read:

> *Madeline asks:* Do you believe in the use of dry shampoo for the hair? Is it beneficial? If so, what is best to use?
>
> *Answer:* A dry shampoo is very beneficial, especially if one's hair is inclined to be oily and dust-catching. The powder should be antiseptic and non-injurious to the scalp. This formula makes an exquisite cleanser and adds luster and life to the hair, if used once a week.
>
> Obtain separately 4 ounces of powdered orris root and 2 ounces of vilane powder. Mix thoroughly and use one or two tablespoonsfuls, sprinkling through the hair by kneading with the fingers, afterward removing all traces by a thorough combing and brushing.

Here you will notice is Vilane Powder again; this time recommended, not as a douche, but as the ingredient of a dry shampoo!

The Column of Valeska Suratt

Another counterfeit health column that had some vogue not long ago was supposed to be the mental offspring of Valeska Suratt. The title of this column varied. Sometimes it was "Making the Hair Grow and Other Beauty Secrets"; another time it was "The Secret of Queenly Hair"; or again "A Trio of Beauty Secrets That Made Valeska Suratt Famous."

Occasionally it would be "It is Easy to Make Your Wrinkles Vanish" and at another time "The Complexion Beautiful and the Secret." All of these appeared in the form of answers to questions. As an example, take this from

Little Home Aids on How to Be Beautiful

BY MADAME MAREE

Questions on Beauty topics will be answered by mail when stamped envelope is enclosed.

For a Lovely Complexion

Many complexions are ruined with cheap soaps and harmful face powders, which clog the pores, produce blackheads, pimply conditions and coarsen the skin. I often recommend cocoa for massaging, as it cleans and cleans the skin, acts as a food to the delicate tissues, and does not grow hair. You can prepare this cream in your own home, at little cost, by dissolving three ounces of cocoa in a pint of water which has been brought to a boil, stirring well until of a thick consistency. Any druggist can supply cocoa, and you will find it the smoothest and most delightful cream you ever used.

Answers to Queries.

Myra: That unnatural hairy growth is easily removed with powdered delatone. Get an ounce from the druggist and mix a little with enough water to form a stiff paste, then spread thickly on hairy parts and in three minutes scrape off and the hairs are gone.

Loctile: The best Lister solution is made with powdered boro lister, and is especially good for sore or aching feet, or burns or wounds of any kind. To prepare, get an ounce of pure boro lister powder from your druggist and dissolve in a pint and a half of boiling water; when cool add eight ounces of alcohol. This is an antiseptic found in nearly every home and is splendid as a tooth wash or for catarrhal conditions.

Ida: Harsh winds often make the skin red and ugly, and I find an amarol solution is the simplest and nicest one of all. To prepare, get two ounces of amarol from your druggist, then dissolve in a pint of hot water and it is ready. Liberal applications after washing and drying the face and hands soon make the skin soft and pink, giving it a satiny glow.

Elsie: Artificial helps are easily detected, but if you use the Vancaire treatment, which feeds the starved and shrunken tissues and builds up from the inside, you will soon have a pretty figure. To prepare this treatment, make a syrup with a cup and a half of sugar and water to make a pint and stir in an ounce of salts tartrus which you get at the drug store, then take one tablespoonful twice a day. This is the original and famous Vancaire treatment so popular among French women.

Reader: Your friend is right. Unless immediate attention is given to your hair you may find even a switch insufficient. Shampooing twice a month for a while with cereol and using beta-cantrol as a tonic greatly stimulates the scalp and hair follicles and soon produces a luxuriant growth of long, glossy hair. Any druggist can supply these ingredients at a small cost; and to make the tonic, pour a half pint of alcohol in a half pint of water, then add an ounce of beta-cantrol. Apply every night for a month, then once a week.

The beauty column of Madame Maree was the advertising scheme of a Chicago "patent medicine" concern.

one of the "beauty secrets" that was "graciously revealed" by Valeska Suratt:

> *Kimono:* Your crow's feet must certainly be very pronounced. It is too bad at your age. But don't worry. Use the eptol treatment I have given and your soul will be filled with gladness when you see the result after a time. Just keep at it. It has proved highly successful in worse cases than yours. I have seen these results with my own eyes.

In reading this hypothetical answer you will recognize, now that it has been called to your attention, the trick in the bag. It is Eptol. The state chemists of Connecticut analyzed Eptol some time ago and found that it was a rose-scented mixture of powdered soap and borax.

Valeska Suratt's beauty columns emanated from a Chicago "patent medicine" concern and were, in fact, nothing but advertisements skilfully devised to hide their nature.

Madame Maree's Department

Then there was the beauty column, "Little Home Aids on How to be Beautiful," supposed to be conducted by Madame Maree. In it we would read such interesting items as this:

> *Ida:* Harsh winds often make the skin red and ugly, and I find an amarol solution is the simplest and nicest one of all. To prepare, get 2 ounces of Amarol from your druggist, then dissolve in a pint of hot water and it is ready. Liberal application after washing and drying the face and hands soon make tne skin soft and pink, giving it a satiny glow.

Thus was Amarol, a "patent medicine," exploited. Amarol has been analyzed by the chemists of various states. From the statement in the *Medical Frauds* bulletin issued by the Indiana State Board of Health it appeared that Amarol came from the same place that put out the Valesca Suratt nostrums.

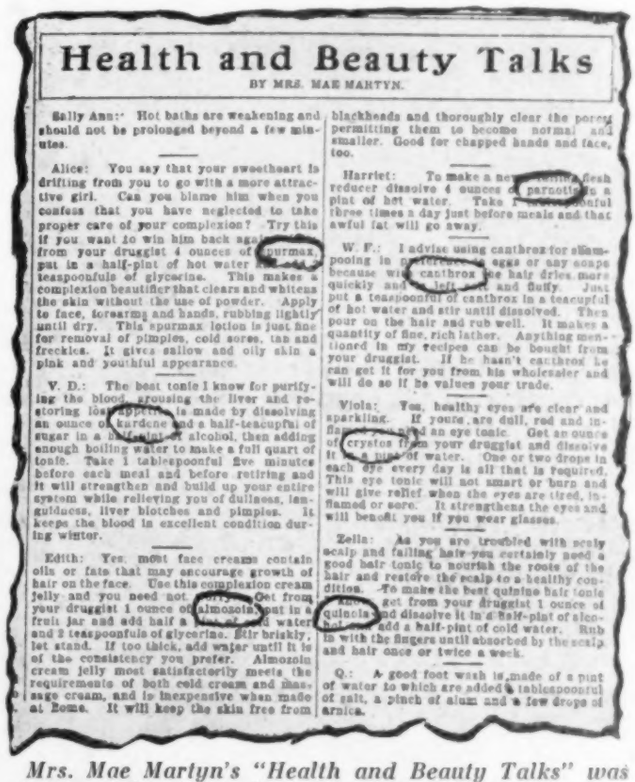
At the time that Amarol was analyzed, it was found that this preparation for making the skin "soft and pink" was 95 per cent. Epsom salt and 5 per cent. borax; estimated value, one cent; selling price one-half dollar.

Advice Given by Mrs. Mae Martyn

The "Health and Beauty Advice" column that the public was led to believe was conducted by Mrs. Mae Martyn was in fact a "patent medicine" advertising campaign of a Chicago concern that seems originally to have been in the more respectable business of making flavoring extracts. Thus Mrs. Martyn:

> *Alice:* You say that your sweetheart is drifting from you to go with a more attractive girl. Can you blame him when you confess that you have neglected to take proper care of your complexion?
>
> Try this if you want to win him back again: Get from your druggist 4 ounces of spurmax, put in a half-pint of hot water and add 2 teaspoonfuls of glycerin. This makes a complexion beautifier that clears and whitens the skin without the use of powder. Apply to face, forearms and hands, rubbing lightly until dry.
>
> This spurmax lotion is just fine for removal of pimples, cold sores, tan and freckles. It gives sallow and oily skin a pink and youthful appearance.

Naturally, any girl would be interested in a product that would prevent her sweetheart from drifting away, so the chemists of the American Medical Association's laboratory were asked to analyze Spurmax. These unimaginative laboratory men reported that it was nothing more mysterious than a cent's worth of Epsom salt



Health and Beauty Talks

BY MRS. MAE MARTYN.

Sally Ann: Hot baths are weakening and should not be prolonged beyond a few minutes.

Alice: You say that your sweetheart is drifting from you to go with a more attractive girl. Can you blame him when you confess that you have neglected to take proper care of your complexion? Try this if you want to win him back again from your druggist 4 ounces of spurmax, put in a half-pint of hot water and add 2 teaspoonfuls of glycerine. This makes a complexion beautifier that clears and whitens the skin without the use of powder. Apply to face, forearms and hands, rubbing lightly until dry. This spurmax lotion is just fine for removal of pimples, cold sores, tan and freckles. It gives sallow and oily skin a pink and youthful appearance.

V. D.: The best tonic I know for purifying the blood, arousing the liver and restoring lost appetite is made by dissolving an ounce of kurdene and a half-teacupful of sugar in a half-pint of alcohol, then adding enough boiling water to make a full quart of tonic. Take 1 tablespoonful five minutes before each meal and before retiring and it will strengthen and build up your entire system while relieving you of dullness, languidness, liver blotches and pimples. It keeps the blood in excellent condition during winter.

Edith: Yes, most face creams contain oils or fats that may encourage growth of hair on the face. Use this complexion cream jelly and you need not worry. Get from your druggist 1 ounce of almozoin, put in a fruit jar and add half a pint of cold water and 2 teaspoonfuls of glycerine. Stir briskly; let stand. If too thick, add water until it is of the consistency you prefer. Almozoin cream jelly most satisfactorily meets the requirements of both cold cream and massage cream, and is inexpensive when made at home. It will keep the skin free from blackheads and thoroughly clear the pores, permitting them to become normal and smaller. Good for chapped hands and face, too.

Harriet: To make a new scientific flesh reducer dissolve 4 ounces of parrotine in a pint of hot water. Take a teaspoonful three times a day just before meals and that awful fat will go away.

W. F.: I advise using canthrox for shampooing in preference to eggs or any soaps because with canthrox the hair dries more quickly and is left soft and fluffy. Just put a teaspoonful of canthrox in a teacupful of hot water and stir until dissolved. Then pour on the hair and rub well. It makes a quantity of fine, rich lather. Anything mentioned in my recipes can be bought from your druggist. If he hasn't canthrox he can get it for you from his wholesaler and will do so if he values your trade.

Viola: Yes, healthy eyes are clear and sparkling. If yours are dull, red and inflamed use an eye tonic. Get an ounce of crystos from your druggist and dissolve it in a pint of water. One or two drops in each eye every day is all that is required. This eye tonic will not smart or burn and will give relief when the eyes are tired, inflamed or sore. It strengthens the eyes and will benefit you if you wear glasses.

Zella: As you are troubled with scaly scalp and failing hair you certainly need a good hair tonic to nourish the roots of the hair and restore the scalp to a healthy condition. To make the best quinine hair tonic known get from your druggist 1 ounce of quinola and dissolve it in a half-pint of alcohol, then add a half-pint of cold water. Rub in with the fingers until absorbed by the scalp and hair once or twice a week.

Q.: A good foot wash is made of a pint of water to which are added a tablespoonful of salt, a pinch of alum and a few drops of arnica.

Mrs. Mae Martyn's "Health and Beauty Talks" was an advertising campaign of another Chicago company that put out a line of "patent medicines."

perfumed and colored. It sold for half a dollar. Count on a chemist for taking the joy out of life.

The outstanding features of the counterfeit health columns so far described have been that they were paid advertisements put out by business men who had "patent medicines" to sell. These men either hired or purchased the right to use the names of certain individuals for the purpose of lending an air of verisimilitude to what might otherwise have been a bald and unconvincing narrative.

As a means of fooling the public these spurious health and beauty columns were a success. But they did not fool the newspaper publishers. It was a plain business arrangement with them.

David H. Reeder's Health Club

In this respect the "health column" of David H. Reeder differed from those already discussed. Reeder not only was able to mislead the public, but he was able also to fool some newspapers. He did business from Laporte, Ind., and Chicago. Some country newspapers which could not afford the syndicated genuine health columns and did not have sufficient circulation to attract the "patent medicine" concerns that advertised by the fake health column methods, "fell for" the column of David H. Reeder. Reeder called himself doctor and occasionally added the title M.D. to his name. Careful search has failed to show that Reeder is or ever was a physician.

His method was unique. He submitted to country newspapers, without charge, a pseudo-health column entitled the "Home Health Club."

In getting newspapers to publish his stuff, Reeder explained that the inquiries which would come in to the Home Health Club promoted the sale of certain books which the Club had to offer and these sales covered the expense of his organization. This, Reeder explained, was how he was able to furnish this "valuable service" to the newspaper for nothing. In addition to his "Home Health Club," whose existence was admitted to the newspapers, Reeder was also president of a "patent medicine" concern operating from the same address and known as the Home Remedies Company. This connection was kept dark.

In Reeder's column he did not specifically recommend any "patent medicines," but he would urge any one who sought information on any health subject to address the "Home Health Club." Persons who wrote to the "Home Health Club" asking for information were told to purchase one or more of the books that the club had for sale. In addition, they were told that such-and-such a product, sold by the Home Remedies Company, was excellent for what ailed them.

Nowhere was there any indication of the connection between the Home Remedies "patent medicine" concern and the "Home Health Club." Although the two enterprises were operated from the same address, two addresses were given in the advertising and to one not familiar with the location there was nothing to show that the two addresses referred to one and the same place.

The Home Remedy concern had a large line of "patent medicines." There was one for Abscesses at $2; another for Locomotor Ataxia for 50 cent; still another for Cancer was priced at $2. The remedy for Cataract was only $1 while "Cold Feet" could be cured for 50 cents. "No. 42" for Insanity was another half-dollar preparation, while "Grandmother's Pile Cerate" as a "relief and cure" of any form of Hemorrhoids should be considered cheap at 50 cents.

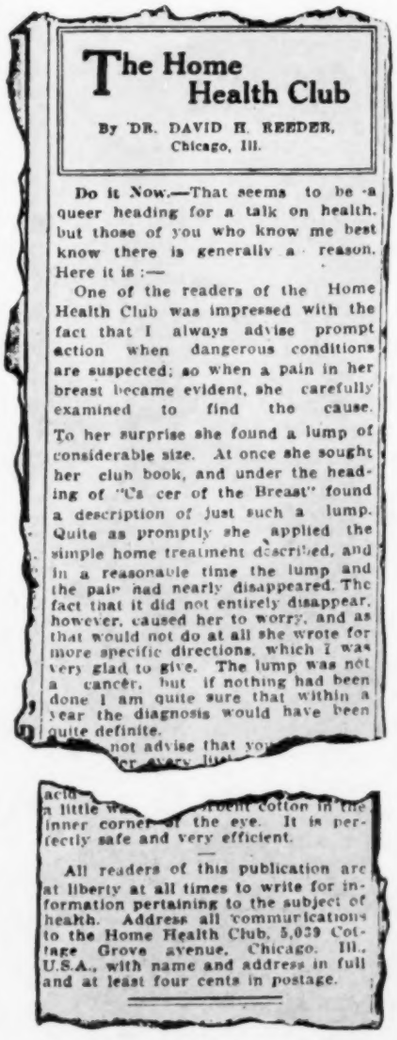
The company's *piéce de resistance* was "Re-New-U"; warranted to give you Health, Vigor and Vim.

Did you desire to *look* as young as Re-New-U would make you *feel*, you should use "Cutola," which "enables you to defy old age"; in fact, you had their word for it that it would "restore freshness and youthful appearance to the face of an old Arizona Indian."

Those who, like Ponce de Leon, might be seeking something in this line, could send in for a "Combination Order: 6 Boxes of Re-New-U and 3 Bottles of Cutola, $5.00."

Reeder was a convincing writer. A man who wrote to him asking what could be done for a long-standing case of hemorrhoids (piles) was told by Reeder that the case could be "entirely cured without having to resort to an operation." As to the cause of the condition, Reeder opined that the "bowels have very much to do with it"; which seems reasonable.

The sufferer was told to buy



The Home Health Club

By DR. DAVID H. REEDER, Chicago, Ill.

Do it Now.—That seems to be a queer heading for a talk on health, but those of you who know me best know there is generally a reason. Here it is:—

One of the readers of the Home Health Club was impressed with the fact that I always advise prompt action when dangerous conditions are suspected; so when a pain in her breast became evident, she carefully examined to find the cause. To her surprise she found a lump of considerable size. At once she sought her club book, and under the heading of "Cancer of the Breast" found a description of just such a lump. Quite as promptly she applied the simple home treatment described, and in a reasonable time the lump and the pain had nearly disappeared. The fact that it did not entirely disappear, however, caused her to worry, and as that would not do at all she wrote for more specific directions, which I was very glad to give. The lump was not a cancer, but if nothing had been done I am quite sure that within a year the diagnosis would have been quite definite.

not advise that you

a little wa[illegible] absorbent cotton in the inner corner of the eye. It is perfectly safe and very efficient.

All readers of this publication are at liberty at all times to write for information pertaining to the subject of health. Address all communications to the Home Health Club, 5,039 Cottage Grove avenue, Chicago, Ill., U.S.A., with name and address in full and at least four cents in postage.

David H. Reeder's "Home Health Club" column was a scheme whereby Reeder obtained a "sucker list" for a mail-order "patent medicine" business and got newspapers to print this stuff for nothing.

Volume 3 of the "Home Health Club" book (price $2), which would enable him to treat himself successfully at home. He should also "secure and use internally a preparation of tissue foods" which were handled by the Home Remedies Company. Reeder obligingly offered to ask this company to send the poor victim some circulars describing these "tissue foods."

One can visualize Dr. Jekyll Reeder, founder of the "Home Health Club" asking Mr. Hyde Reeder, president of the "Home Remedies Company," to send the advertising circulars. It is a touching sight.

"Specialist" Leach

In bringing this article to a close, mention should be made of one example of a type of advertising now practically a thing of the past. A few years ago it was common for some of the less reputable of the "patent medicine" sellers to publish advertisements of their nostrums in the guise of news items.

So glaring did this abuse become, and so destructive was it of public confidence in all advertising, that the United States Post Office finally called a halt. A ruling was made that any newspaper which wished to retain the second-class mailing privileges could accept no advertising matter in the guise of straight reading matter. Where the general make-up of an advertisement is such as to mislead the public into thinking the matter is news rather than advertising, the item in question must be distinctly marked "Advertisement."

WHITE SCOURGE BEING CHECKED

MODERN METHODS OF TREATMENT REDUCE DEATH RATE FORTY PERCENT.

REMARKABLE CURES

Healing Effect of Pine on the Lungs, Outdoor Exercise and Nourishing Food Essential to Permanent Cure.

In New York, since 1881 there has been a reduction in the death rate from tuberculosis of 40 per cent; that means an annual saving of some 5,000 lives.

Before a German scientist discovered the germ of this disease, it was considered the visitation of an avenging Providence. Our fathers gave it up as hopeless. Modern methods of treatment, however, have done much toward eradicating the terrible disease.

A noted specialist, whose camp for consumptives in the pine woods of Maine has attracted great attention because of the remarkable cures he has effected there, and whose methods have been endorsed by the highest authorities, says his treatment was very simple, consisting of open-air exercise, deep breathing and nourishing food. Every four hours the patient was given one teaspoonful of a mixture of the Pure Virgin Oil from the white pine trees combined with whiskey and glycerine in the following proportions: One-half ounce Virgin Oil of Pine (Pure), two ounces Glycerine and eight ounces of good whiskey. Shake well and take in teaspoonful doses every four hours.

This treatment strengthened the lungs and h[illegible] bronchial tubes

An advertisement printed to simulate news matter. The nostrum advertised was Virgin Oil of Pine, a fraudulent alleged cure for consumption.

Before this ruling was issued, an advertisement in the form of news matter appeared in certain newspapers regarding an alleged cure for consumption. The story was to the effect that "Dr. Leach, a famous specialist," had a camp for consumptives in the Maine woods and was curing his patients with oil of white pine trees. The article went on to state that the treatment was just as efficient in the patient's home as it was in the pine woods. All that was necessary was to get some whisky, some virgin oil of pine and some glycerin. Mix them and take a teaspoonful every four hours.

Of course, the Ethiopian in the wood lot was Virgin Oil of Pine, a "patent medicine." There was no "Dr. Leach, famous specialist"; there was no such camp for consumptives in the Maine woods and oil of pine contained no pine oil. The entire thing was a fraud.

In closing, it is but fair to say that many newspapers of the better class have consistently refused the kind of advertising copy that has been discussed in this article. This fact, coupled with the efforts of reputable advertising men to abolish such misleading and confidence-destroying methods has resulted in a great curtailment in the activities of "patent medicine" concerns using the fake health column. A more critical attitude on the part of the public and a continued growth of the "truth in advertising" movement will eventually make publicity of this class unprofitable. Then and not until then will it cease.

Golfing—After Fifty

A. T. PACKARD

They a' gowf, they a' gowf,
The grave and reverend seniors gowf;
The sma' an' great in church an' state,
Ye mak' them brithers a' gowf.
Ye've sto'n the hearts o' a', gowf,
Ye've turned the heids o' a', gowf;
The club an' ba' bewitch us a',
We're a' daft on gowf. —JOHN KERR.

SOME time ago, a British medical authority was quoted as saying it was dangerous to play golf when a person had reached the age of fifty. If the authority were correctly quoted, his statement was based on insufficient information. The only other alternative is that he spoke out of an abysmal depth of ignorance arising from the fact that he was a non-golfer.

Now we come to a quotation from another Briton, H. G. Wells. Many readers will remember that he wrote, in his description of the life of the Utopians:

> Games that did not involve bodily exercise, those substitutes of the half-witted for research and mental effort, had gone entirely out of life, but many active games were played for the sake of fun and bodily vigour.

A Senior Golfer Defends the Game

The medical opinion quoted in the beginning was based on the sudden death of a prominent Englishman while playing golf.

Let's have one more quotation; this time from Alexander H. Revell, president of the Illinois Seniors' Golf Association. Mr. Revell is 67 years old and has been an ardent and expert golfer for more than twenty-five years. Said Mr. Revell recently:

> The game of golf has become a most popular one for men who lead sedentary lives, as a means of getting much needed exercise. Golf is not necessarily a strenuous game but one that incites vigor, enthusiasm and has a fine stimulating effect.
>
> It would hardly be fair to condemn golf because it so happens that a few men have died on the links—there are perhaps a million enthusiasts playing golf every day. It is but natural that the inevitable call may come to a very small percentage of this number even while they are engaged in playing. I would like to know if there is any place on earth where people do not die.

Golf Does Not Make Immortals

> We all know that death is inescapable. No one has yet, that I know of, made the claim that playing golf will make one immortal. At any rate, when the time comes, isn't it a grand place to die—out in the open, under the great canopy of heaven, walking over nature's own green tapestry, with the finest of life's thoughts and with an attitude of mind that is in tune with the finest expression of nature? No man may know when the end will come, but could the grand finale of life come in a more satisfying way?
>
> If those people who are shocked because a man, now and then, dies on the golf links will only remember the hundreds of thousands of people who are daily on the links, enjoying life in its fullest measure and in that way get the comparison, they will dismiss any pessimistic thought they might have and thus become inflated optimists and most ardent boosters of the game.
>
> The trouble is there are too many men who hardly know how young they are. They have given up at forty, fifty, or sixty years and never make an effort to learn how useful their muscles are. It is tradition that we must have reverence for age. All the dignity that we ordinarily attach thereto is sufficient to convince the average unthinking man that he is old and he is old because he thinks so. I have met men at forty who were old, I have met men at seventy-two who were young.

Now we take up the case of a personal friend of the writer who died of heart failure several months ago. He was 65 years old, perhaps older, but his sturdy frame, hearty greetings and unfailing optimism never led to a thought of his age. Five years ago, after an active business career of forty years, he was advised by a physician to retire and take things as easily as possible. His physician's opinion was that to experience any excitement or worry might result fatally.

The patient was T. E. Duer. He followed the advice of his physician, even to learning to play golf to satisfy his love of the out-of-doors. He fell in love with the game and played almost daily.

Only at rare intervals did his friends note that he had the slightest ailment. He was the picture of health and was supposed to have a slight asthma, which occasionally slowed up a game or induced him to drop out. Ordinarily, he was the one not only to speed up the play but to suggest another round. There was no question that golf benefited him immensely. He claimed he was getting younger yearly instead of older and there was no evidence to the contrary.

After his death it was seen that he knew his condition thoroughly and often refused to take a chance when weather and inclination combined in a call to the golf course. It merely happened that the summons came suddenly while sitting in a chair in his home. It might as readily have come on the golf course—and given another example to the pseudo-authorities who declare indulgence in golf after fifty is dangerous.

The writer himself had a confining business position which kept him tied to a desk an average of over fifteen hours a day for twenty straight months, except for various spells of illness.

At the end of twenty months he went to bed for nineteen weeks, beginning with ner-

vous prostration and ending with jaundice. Between you and me he had a "helluva time."

Doctor Prescribes Golf

While recuperating, he went to his physician and asked for a tonic. His physician assured him he had the exact prescription he needed and turned to his desk to write it. Across the entire face of the blank, he scrawled the word "Golf." In reply to his patient's angry expostulation, the doctor said:

"You are a good patient, or at least have been, because you obey directions. I think you are a good friend of mine and I know I am a good friend of yours. I cannot prescribe even for a friend who does not follow directions. You have my prescription. If you do not take it I will have to ask you to call in another physician."

Rather a facer, wasn't it? Forty three years old and with the general impression that a man who played golf was a cross between a sissy and a moron.

It really is funny now to realize with what secrecy the prescription was taken. Clubs were bought and taken directly to a golf course and a lesson begun under a professional. After a few practice strokes a ball was teed and hit. Right there came the knowledge that golf was a real game—a knowledge that has been deepened by experience to the conviction that it is the hardest and most interesting game ever invented.

Reduces Doctor Bills

And there is a snapper to this illustration. As nearly as could be figured, I had been paying my physician friend over $300 a year. That was more than fifteen years ago and my total contribution to his bank account since that time has been one lone $2 bill.

It might be well to tell right here just how golf brought about such an improved physical condition. Another position almost as confining as the other followed recovery and, in lieu of a yearly vacation, every Wednesday afternoon was taken for golf. There wasn't any halfway measure about the treatment. Every Wednesday afternoon and every Saturday afternoon and eftsoons, Sundays, golf had the right of way. I never missed a week from golf for more than sixty straight weeks, irrespective of weather conditions. All this is to be considered with the fact that the writer has passed the danger mark of the British savant by a full decade.

Like many another chained-to-a-desk ignoramus, card games were my only relaxation. The first golf lesson conflicted with the usual card game and from that time, fifteen years or more ago, there has been no reappearance of the craze for cards. There was no thought of swearing off or even temporarily quitting cards and other indoor games. It simply was because they all seemed so futile. They seemed in very fact "those substitutes of the half-witted for research and mental effort" that Wells had pictured.

Mr. Maxwell and His Golfiad

Take now the case of R. C. Maxwell of Trenton, N. J., as told by his son to the writer, during the National at the Flossmoor Club, Chicago, where the son was a contestant. Mr. Maxwell is well over fifty and years ago seemed in hopelessly poor health; a victim of nervous prostration in an aggravated form. At last, one of his physicians recommended golf, there being nothing in medicine that could bring about a cure.

That advice was given nearly twenty years ago and was taken with somewhat wonderful results by Mr. Maxwell. Within a few months he had lost all trace of his illness and the younger Mr. Maxwell is quoted correctly in saying he has not had a sick day since he began.

Underwood & Underwood

Two white-haired golf enthusiasts—Judge Kenesaw Mountain Landis and the late Frank Bacon, better known as "Lightnin'"

International

Far from being harmful to most men past the half century mark, golf is very frequently prescribed for them by their physicians. It supplies the middle-aged business man with the needed exercise and diversion.

Now mark the effect of golf taken in moderate doses. For some reason or other, Mr. Maxwell embarked on a real Golfiad, an adaptation of the "quail a day for thirty days" test. Mr. Maxwell decided to play eighteen holes a day for a hundred days. This he accomplished and started on another hundred. This also he accomplished and started happily on a third hundred.

Doubtless he would have been at it yet, but one day something happened to interrupt the Golfiad, after Mr. Maxwell had played eighteen holes a day for 271 consecutive days. There was not a time during the Golfiad, nor was there a day up to the time the younger Mr. Maxwell told the story that the elder Mr. Maxwell was not in the best possible condition.

Should Use Moderation in Golf

Now let's see if we can weave a carpet from this scattered warp and woof of illustrations. Isn't it believable, up to the point of making argument unnecessary, that there is no physical harm in golf if played in moderation? That may mean nine or less holes played at leisure by one and an indefinite number of holes by another. In other words, cannot there be universal agreement that golf, played in moderation, is of universal physical benefit provided the player is equal to the physical exertion of swinging a club and walking the required distance?

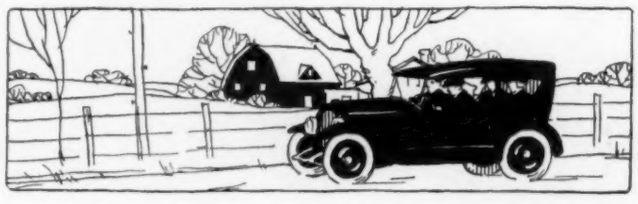
If the answer is in the affirmative, that seems to settle the argument. Of course, there is the occasional player who overdoes the thing, just as there are people who eat too much. One can be harmed by playing golf when he has played all he should, just as one can harm himself by eating a loaf of bread after his appetite has been satisfied.

Can Control Golf Appetite

But where can one pick an argument against the playing of golf at fifty or any other age from such statements? Does the British authority presume that at fifty a man cannot control the golf bug as well as his appetite?

And finally, golfer or not, can any reader of this article name a case within his experience in which he believes a reasonable indulgence in golf has done harm and, in cases in which fatalities have resulted on the golf course, that such fatalities resulted from the playing of golf and would not have resulted if the victim had been engaged in some other pursuit?

Or, is there a reader of this article, golfer or not, but knows dozens or hundreds of men of mature years who have been benefited immeasurably by moderate indulgence in the game that "has bewitched us a'"?



Have a Back Yard Garden for Health

WHAT place does the back yard hold in your mind? Is it "a thing of beauty," or a place in which to hang the washing? When you look out from your kitchen window are you greeted with the joy of a glorious spot of color—the sun shining on a bed of flaming tulips; rows and rows of little vegetable tops showing their light green color to suggest good things for the table as a reward for your work? Or is your outlook just another back yard—sans beauty, sans promise, sans anything cheerful and lovely. You can have service and beauty and health from your little back yard, if you will give it care and attention a small part of each day.

The rigorous winters of the North intensify the desire to get at the garden, if only to poke a stick into the ground. Select the seeds you want, but do not sow them too early. If you *must* sow seeds now, choose several shallow wooden boxes from the basement and fill them with good rich soil. Plant your squash, bean and cucumber seeds in this and after several weeks of vigilant care, ventilating, shading and watering, the plants will grow into slender seedlings. By this time the sun will be a little warmer and the days a little longer, and you can transplant them into the space you have prepared for them with perfect safety. Plants can be set out as late as the first of June. This will insure their safety and quick growth when warm nights shall have set in.

Courtesy Farm and Garden Magazine

In this Iowa garden the vegetable plot is hidden by a border of flowers.

A hotbed should at no time be entirely closed. If you use an old sash or storm window for the covering, leave it open a little way even on the very coldest days. The cool air will make the little plants hardy and help to toughen them against the transplanting.

Now about the preparation of the soil. W. C. Egan of Highland Park, Ill., a horticultural authority of national reputation, says this:

"Almost all virgin soils contain ample plant food, but the deeper part lacks the result of the action of the air, sun and frost and the natural humus of decayed leaves and trees and grasses. The plant food it contains is "uncooked'—that is, not ready for plant assimilation. Therefore the beds should be dug two or three feet deep in order to mix the top value with that underneath. If the soil is 'clayey' in texture, mix with it sifted coal or ashes. These contain no manurial value, but they open up the soil. If the soil is sandy, get some clay loam if you can, or black loam will help. Get humus into the soil by adding old manure."

It is deemed by experienced gardeners that for the greater area of our country no planting is safe until after May 15; but it pays to risk a small outlay for early peas, hardy vegetables and even corn. The loss is small if you lose and the gain is worth the risk.

Early peas can be sown as soon as the ground can be worked, even if cold weather follows. It is advisable to cover the peas by ridging so that excessive water will run to the sides and not subject the peas to too much moisture. This method can be employed with potatoes. Straw, leaves or hay can be strewn over the ridges on cold nights.

Beets, carrots, celery, kale, lettuce, onions, parsley, parsnips, spinach and salsify are among the early vegetables often requiring second sowing, but beans, corn, cucumbers, okra, pumpkins, radishes and squash require warm soils and must wait until the weather is settled.

Cultural directions are usually found in catalogs, but only in a very superficial way. In general, local conditions entirely control all garden operations. You must learn to use good common sense in your garden.

Now that you have prepared the way for a vegetable garden, do not forget that you will want some flowers in your back yard. Almost every one dresses up the front yard to perfection, in order to present a good appearance to the neighbors. This is all very well, but a very small back yard garden plot of flowers will give more beauty and more privacy. Perhaps you would like a simple border of flowers for your yard. It will be a pleasing arrangement around the vegetable plot. Flower borders are easily adapted to almost any kind of a yard.

Color Schemes for the Seasons

Comparatively few garden-lovers are blessed with enough ground to make elaborate color schemes possible. The spring garden, the blue garden, must be a part of the general plan, or be a dream forever unattained. It is possible to so arrange a small garden that it will present entirely different color schemes at different seasons, from the first delicate mauves and yellows of early spring through the pinks, whites and blues of midsummer, to the gorgeous procession of purples, browns and golds of autumn.

Perennial bulbs must be the foundation of the garden beautiful. The annual flowers can then be chosen at will, and will fill in nicely with suitable colors until the bulbs bloom. By planting a few early spring flowers at more or less irregular intervals the full length of the border, then a few of the late spring, with the midsummer and autumn flowers in greater number than the early but in equal proportions, the color scheme of the season will prevail over the whole garden. The color masses should be large enough to have dignity.

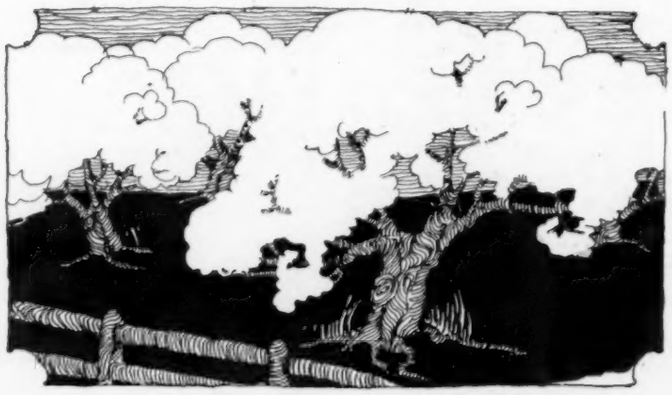
The first spring coloring may be from iris, planted in clumps; sweet rocket; hesperis; blue, yellow and white columbine; Florentine iris; pale yellow and dark orange tulips. In June the coloring will come from pink peonies, Canterbury bells, and delphinium.

In midsummer, phlox comes first to one's mind, all the various pinks, lavenders and occasional whites; Japanese anemones, rosea superba, and a few sprays of veronica. Imagine delphinium behind a lavender phlox; pale yellow calendula; small white petunias. As autumn draws near, the gold and browns of heleniums, purple fall asters, golden-rod and chrysanthemums form the background for this lovely mellow season.

Garden Is Good for Soul and Body

It is with home-grown flowers as it is with home-made bread. The accent must always be placed on the word "home." They grow better flowers in nurseries and bake better bread in bakeries; but the prefix "home" makes a world of difference in the quality of fragrance and the flavor. Nothing is really made that is not "home" made. And nothing can be home-made without a garden. A garden! To grow your own vegetables, to nurse your own flowers! This is to be personally acquainted with the universe.

Grubbing around in the earth; watching the little green shoots grow tall in the sun—all this is good for the soul. Bending and stooping and digging is good for the body. And if you are afraid of freckles, wear a big straw hat or a sunbonnet.



Establishing a Child's Food Habits

EDITH LOCHRIDGE REID

AN IMPORTANT phase of child training is teaching correct food habits. Many a family mealtime is made utterly unpleasant because some member is dissatisfied with the menu. The world is full of persons who are continually causing friction because they have pampered appetites, not due to organic trouble or chronic illness, but rather to the lack of firm, wise guidance in their eating habits as growing children.

Many a young mother will offer a baby some good, wholesome broth which is highly recommended by the Book of Rules, and which in truth is just what a baby should have when he begins to eat food other than milk alone. But Baby turns away. He doesn't like the new concoction, for it doesn't taste like what he has been having. Perhaps she offers it to him a second time—twice is usually the limit—and if he again refuses to swallow it, she says, "O, he doesn't like it."

Then when Grandma comes over she is told, "Baby doesn't like that broth I made, he won't touch it," and soon the whole retinue of relatives is repeating that there's one thing darling won't eat and that's broth.

Now such a young mother neglects to take into consideration the circumstances that may have caused baby to refuse this food. If he is being weaned he may not feel well. Or perhaps he is not especially hungry at that time. A feeling of playfulness could cause him to push the spoon away.

Anyway from that time forth when the family has beef broth, Mother says, "Don't serve Baby any, for he won't eat it."

And when he is over to Aunt Mollie's, she says, "I know there's no use to offer you any of this for you don't like it."

That's why such a child grows up imagining he doesn't like broth, when patience on mother's part would have overcome his aversion.

Mother Thinks He Doesn't Like Milk

A child near us thinks he doesn't like milk for this same reason. After he was weaned his mother tried to have him drink milk from a glass and he refused with protesting howls. The family physician told her to persevere by coaxing him along until he learned to take this natural and wholesome food. But the mother found that there were other things he would eat, so she let the milk slip. The result was that he ate food not suited to his age and refused any cereal because it required milk or cream. Now he is six years old and has a great deal of stomach trouble because the family has told him that he doesn't like milk.

To show the fallacy of the idea, I saw this same boy at a child's tea party playing with some new miniature dishes, and he drank a dozen of the small teacups of milk in a race with another child to see who could drink the most. There was no natural dislike for milk on his part and the idea was purely a psychological development.

How One Child Learned to Like Prunes

Now the best way to deal with these food dislikes is to pay little attention to them. The case of a mother who exercised good judgment will suggest a helpful method. She offered Billy prune juice when he was just beginning to eat food from a spoon. He sputtered and made a wry face, so she put it aside.

The next day she again produced the prune juice when she knew Billy was quite hungry. He swallowed some and spit the rest out, but with untiring patience she tried again.

Each time he swallowed a little bit more, and finally she laid a whole prune with the pit removed on his high chair, and because he discovered this treasure himself he ate the fruit with great enjoyment, and prattled for more. This mother could just as easily have taught her baby not to like prunes as she did finally train him to eat them. It took patience—but what worthwhile achievement does not?

One of my own children when small did not eat green peas. However, each time that the family had them he was served with a small helping. Nothing was said about his leaving them in his dish, nor was he urged to taste them. The point was, he was not omitted when peas were served; he was not set aside as "different" or "special" until he grew to think he was.

One day he reached his spoon in and tasted the peas in his side dish. No one gasped: "O, look!" Nor did Mother exclaim, "That's a good boy, Jimmy." Even Dad refrained from saying: "We thought you'd come to it." We all kept still, and Jimmy ate all the peas he could scoop up, and has ever since.

Another point to stress is not to allow a child to say he doesn't like anything. Primarily this

is discourteous, and culinarily it is demoralizing. If he doesn't care to eat what is served he may disregard it, but should say nothing. The chances are that he will eventually forget his aversion just as Jimmy did.

Still another helpful plan in encouraging proper food habits is to omit any discussion with the child as to what he wishes for meals. Mother knows from experience what a child should have. He thinks he knows what he wants but the facts are if he is not consulted he probably will eat what is served and be happy and satisfied.

In presenting a new dish to a child it is better not to comment on the fact that it is unusual, but rather let the child discover that by tasting. The truth is that when appetite is keen enough, any well-cooked, nourishing food or any natural fruit or vegetable has an appeal irresistible to the normal child.

Another phase of this discipline in eating can well be emphasized also, and that is that very small helpings should be served. If a large amount is put on the plate it looks like such a big proposition that the child balks at the start. Give a tiny portion and let the child help himself to more with Mother's assistance.

Many little devices may be used to induce the child to cultivate an appetite for proper food. Pretty dishes and silver or a fancy bib may be provided, and everything be done to make the meal pleasant and to cause the child to anticipate his eating periods. And then when the most favorable conditions have been created for mealtime, the one most important element to success is persistence on Mother's part day by day. This implies untiring patience, but is worth while when she realizes that a child's food habits grow entirely from what he learns to eat at home.

Bringing Health to the Country Dweller

L. L. LUMSDEN

IT IS a long jump from an epidemiological study of a case of typhoid fever in Willow Tree Alley in Washington, D. C., to the development of a public dental clinic in Cape Cod, Massachusetts, or to the organization of a campaign for the prevention of goiter in Cascade County, Montana, or to the application of practical sanitary measures to corral hookworms on a farm in Harrison County, Mississippi.

The United States Public Health Service since 1906 has made jumps such as these, and many of them, in the development of its present program of cooperative rural health work.

Besides its duties in the outer line of entrenchments to prevent the introduction of disease into this country, the federal health service cooperates in various ways with state and local health departments in the inner lines of entrenchments where the bigger part of the work must be done for the prevention of disease and the promotion of health among our people.

Among the most important cooperative activities of this service is that conducted in the field of rural sanitation. The plan of this work was developed gradually and was a logical consequence of other activities.

What County Surveys Showed

In 1914 the Public Health Service, in cooperation with state and local health authorities, undertook a series of sanitary surveys and educational activities in counties in different sections of the United States. This work is described in Public Health Bulletin No. 94. The surveys, comprising a house to house visit, covered eighteen counties distributed in sixteen states. In every community reached, marked sanitary improvements resulted and notable reduction in typhoid fever and other diseases was effected.

Follow-up observations were made in these counties from time to time for a period of several years after the original survey. From these observations it was found that in the counties in which reasonably adequate county health service had been established, under the direction of a whole-time health officer, sanitary progress continued; but in those counties that were not provided with such service, sanitary retrogression occurred.

The conclusion was obvious. What is needed for the prevention of disease and the promotion of health in our rural districts is whole-time local health service of a reasonably adequate sort. Our federal and state health agencies can assist most in rural health work by helping to bring this about.

County Demonstrations Conducted

The cooperative rural health work of the Public Health Service is supported with money appropriated by Congress for "special studies of and demonstration work in rural sanitation." It has been found that such demonstration work can be conducted most economically and advantageously by making it a part of a general program of activities for the prevention of disease and the promotion of health.

A county, or district comparable to a county, wholly or in large part rural, is selected as the unit for the demonstration. The work is conducted in cooperation with, and at the request of, state and local health authorities. An allotment from the federal fund is made for the support of the project. The amount allotted from state and local sources must be at least equal to that from the federal fund.

A health officer or sanitary officer trained in the principles of sanitation is appointed as the director of the work. He must be acceptable to each of the cooperating agencies—the local board of health, the state health department, and the U. S. Public Health Service—and as a rule is given a status of county health officer, deputy state health officer, and field agent of the U. S. Public Health Service. The common ground on which these agencies can meet in such a case is fitness for the position. Thereby, the appointment is removed as nearly as possible from the adverse influence of local politics.

With the advent of the county health officer and the county school nurse, country children in the more progressive communities are receiving periodic physical examinations. They are advised of defects that need correcting.

The head of the unit may have as assistants, according to the amount of the budget, one or more sanitary inspectors, one or more health nurses, and an office clerk. His job is to direct the work so as to give the greatest results possible with the means at hand—and with every dollar invested in the enterprise—for the promotion and protection of health in the community.

His success depends largely on the order in which the work is concentrated on the different lines of health activities needed. From time to time an officer of the Public Health Service or the state health department, or both, visits the project to advise with and assist the head of the unit in the solution of his problems.

The lines of activity at the beginning of the work in the North or West, as in Vermont or Montana, are very different from those indicated in some sections of the South, where malaria or hookworm disease may be highly prevalent. Therefore, a health officer, knowing his job and on his job, is essential to success.

Among the activities carried out in the different projects are acute communicable disease control, school hygiene (including sanitation of school building and grounds and medical inspection of school children), safeguarding of water and food supplies, sanitary excreta disposal, fly control, antimalaria measures (where needed), infant and maternity hygiene, antituberculosis and antivenereal disease measures.

In most of the states, in order to qualify as county health officer, one must have a degree of doctor of medicine.

When sufficient money is not available in a county to furnish the services of a health department under the direction of a whole-time county health officer, the services of a sanitary officer or a health nurse may be provided to carry out the work in the county under the direction of a district supervisor.

The county sanitary officer plan was first tried out in Virginia in 1919 and has proved highly successful. The sanitary officer does not have to be a doctor of medicine, but he must be well trained in the principles of practical sanitation. The work of the sanitary officer or the health nurse in a county, after a year or two, frequently results in an increased appropriation by the county, so that a county health department can be established with a whole-time county health officer at its head. All the members of the working force in every demonstration project are engaged for whole-time service.

Cost Is $1.00 per Capita

Whole-time health service of an adequate sort may be obtained by the average rural community at an annual cost of about $1 per capita. This means a budget of $20,000 for a county of 20,000 population. In most of the counties in which demonstration projects are being conducted, highly effective work is being carried out at a cost of less than 50 cents per capita, and in some, remarkably good results are being obtained from an investment of even less than 25 cents per capita.

It is difficult to estimate even roughly the value of efficient public health service. The results are lives saved, disease prevented, and health promoted. The value to us of the life of one near and dear, of course, cannot be estimated.

The economic value to the community of the life of the average person between the ages of twenty and forty years, based on his capacity

to add to the wealth of the community, is variously estimated from $1,000 to $10,000. The lessened loss in wage-earning and expenses for the care of the sick incident to a lower sickness rate can be measured in dollars and cents.

Said to Yield 1,000 Per Cent. Return

The value of the work of a health department can be measured best perhaps by what it will save to the average person or family in the community in the provision of means recognized as a need and desired for the prevention of sickness and the promotion of health. By using any of these bases of estimate, it will be found that the average rural community provided with reasonably adequate whole-time local health service receives a dividend yield of about 1,000 per cent. as a return on its investment for health service.

The health officer at the head of one of the cooperative projects in a southern state reports recently an illuminating experience in this connection.

A farmer, who had been a resident of the county for some years, called at the health office. He stated that he had been requested by a neighbor to join with others to oppose the appropriation for the continuance of the health service. He wanted to know how much the health service was costing and how much it was worth to him. He stated, on being asked by the health officer, that the assessed valuation of his property in the county was $5,000, and that his family consisted of himself, wife, and three children. The health officer figured a moment and then told the farmer that the health department was costing him 80 cents a year.

How One Farmer Was Convinced

The health officer explained how the farmer could obtain service from the health department in assisting him to make needed sanitary improvements on his place including the construction of a high-grade sanitary privy protecting the well against pollution, and draining a mosquito breeding pond. This service which could be given by the sanitary inspector of the health department would save the farmer about $200, which he would have to expend if he employed a private expert to direct the work. It was also explained (1) how the work of the health department for the prevention of the spread of communicable disease gave his family free insurance against disease; (2) how the physical examination of his children in the course of the school inspection work would prevent serious trouble for them later on; (3) how the correction of physical defects found among his children could be brought about by the machinery provided by the health department at a cost of less than one-tenth what it would be if he took the children to some distant city for the same kind of dental, medical, or surgical work; (4) how the health nurse would visit his home in the event of contagious sickness to assist in measures to prevent the spread of the infection to other members of the family, and (5) how she would be of special value if another baby were expected or if the baby should not be doing well in teething time.

After thirty minutes of discussion along this line, the farmer arose and said, "As I have figured it out, I shall be able to get out of your health department outfit at least $800 in real money for the 80 cents I am putting up this year for its support. This means, Doctor, that I am going back home and tell my neighbors that this is the best investment we have ever made or ever can make, and from now on you can count on me as a booster for the health business."

Distances Make Work Difficult

The general principles of rural health work are essentially the same as those of city health work. The details are quite different. A visit by the health nurse or the sanitary inspector to a hundred homes, requiring travel of only a few hundred yards in the city, may require travel of many miles in the rural district.

As travel at the required rate of speed in sparsely settled districts costs money, the rural health officer, in carrying out a program of efficient health work, must consider carefully at all times the geographical factor in distributing the duties of his working force. Specialization of members of the force on one particular line of activity, however important, such as infant hygiene or tuberculosis control, while advantageous under certain conditions in city health work, would be as a rule too expensive for consideration in the administration of a business-like program of rural health work—especially in the first year or two of the work.

In a large city a small group of persons, constituting the city council, may inaugurate measures which will accomplish sanitary improvements at thousands of homes; but, for the accomplishment of sanitary improvements at 1,000 farm homes, at least 1,000 persons with a wide range of individuality must be convinced that the sanitary measures are needed, become informed how to apply them, and be willing to put them into operation.

Farmer Is an Individualist

In the well-ordered city, such important matters as water supply and disposal of sewage and other waste matter are dealt with in mass, under the direction of the municipal authorities, and the individual citizen has to concern himself with them but little. For the average rural district to obtain a water supply, a spring must be found, a well dug, or a cistern constructed for each home. The protection of the water supply against contamination depends on the commonsense, knowledge, and efforts of the many different householders.

The methods of disposal of human excreta and of other refuse at a country home depend on the knowledge of the subject and the sense of cleanliness exercised by the household. The farmer must be to a large extent his own health officer, his own sanitary engineer, and the operator of his own refuse-disposal service.

Farmers who learn and carry out intelligently and energetically measures to safeguard their live stock, orchards, truck patches, or field crops against the spread of disease fail, in most instances, to seek and apply knowledge of simple and relatively inexpensive measures to safeguard their families against imminent and dangerous communicable disease.

The old water bucket has been supplanted by a sanitary drinking fountain in this rural school, and the common wash basin has given way to a sink.

A careless teacher has allowed the children to misuse the new equipment, and a wet, slippery floor and an unclean sink are the results.

This is the case not because the farmer is more concerned about the welfare of his live stock or crops than he is about the welfare of his family, but because he has formed a habit of working to safeguard his farm products and, curiously, of leaving to chance the protection of the health and lives of the members of his family.

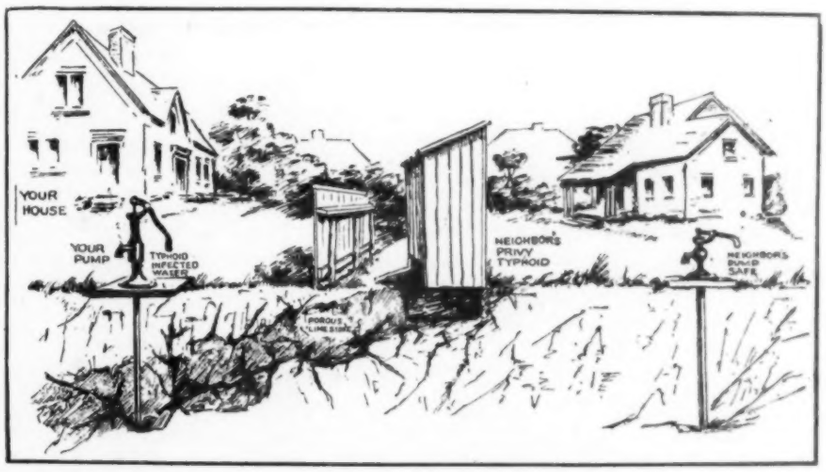
The great sanitary measures, such as the installation of good public water supplies and sewer systems, which have been so effective in the protection of health of cities, are not as a rule feasible for rural communities. The operation of a public scavenger service for the proper collection and disposal of privy contents is not practicable for the average country neighborhood. Due to greater distances to be covered, adequate official supervision over sanitary matters for rural homes is much more expensive than is similar supervision for an equal number of city homes. At the same time the receipts from taxation of property and incomes, from which local health organizations must be supported, are in proportion to population as a rule much less for the rural than for the urban community.

From long experience the farmer has formed a habit of thinking that most things, including sanitary matters on his place, come strictly and solely under his own authority. To him his place is in almost all respects a governmental unit. The city dweller from long experience has formed a habit of expecting the municipal authorities to look after certain conditions which most intimately affect his home.

No "Smart Alecks" Wanted

For these several reasons, rural sanitation depends for its advancement largely—certainly more largely than does urban sanitation—on the observance and practice of sanitary principles by the individual citizen. This means that a reasonable degree of sanitation for our rural districts cannot be expected until the average citizen shall appreciate the importance of, and understand the details of applying, sanitary measures, or, at least, will follow the example of his neighbors who do. Thus, the problem of rural sanitation is a phase of the general problem of education.

To be successful, the rural health worker must educate without appearing ever as a "smart Aleck." He must work with and be one of the folks, if he is to get their cooperation.



Polluted well water is all too common in country neighborhoods. Wells are often located near insanitary outhouses and on lower ground. If the privy in the diagram were located at least 200 feet from the well and on low ground, the water would not have become contaminated.

In a county in Virginia in which a cooperative demonstration project recently was begun with the services only of a county sanitary officer on a cost basis of $3,000 a year, the public school premises were found in grossly insanitary condition. When the sanitary officer appealed to the local school boards to authorize expenditures for the needed sanitary improvements, he learned that the boards had no money for the purpose.

A quitter would have stopped there, but this sanitary officer is a go-getter. He brought about assemblages of the patrons of the schools. He explained the dangers of the insanitary conditions and told how they could be eliminated. For each school, a sanitation day was designated.

Sanitation Day Is Declared

On the date set, patrons—varying in number from fifteen to one hundred—met at the school. They brought the material and implements which the sanitary officer had explained would be needed. Under the direction of, and with the skilled assistance of, the sanitary officer, they constructed sanitary privies, fixed wells, cleaned the grounds, and did other sanitary work needed. While doing the work, they talked and learned sanitation, and many of them within the next few weeks made similar sanitary improvements at their own homes.

Public health business, like any other business, will not run itself. It needs a business manager with his mind and his heart in the work. To persuade the average rural political unit to go into the public health business in a business-like way, some special inducement is necessary. An offer of financial and expert assistance from some outside agency is often an effective factor. It seems logical and right from every standpoint for federal and state governments, through their official health agencies, to assist in the development of whole-time local rural health service.

Without such assistance, desirable progress in this vitally important field is not to be expected. Without such progress, the nation will continue to pay a penalty in preventable sickness, postponable death, and economic loss, amounting to many times over what the cost of the health service would be.

Protection Provided Only to 10 Per Cent.

Only about 250 of the 3,065 counties, or equivalent divisions, in our forty-eight states are now provided with rural health service under the direction of whole-time local health officers. Only about 10 per cent. of our total rural population is protected with health service which even approaches adequacy.

Due to the lack of rural health service, we are having in the United States every year scores of thousands of deaths, hundreds of thousands of cases of incapacitating illness, and millions of cases of physical disability—all of which are unnecessary and can be prevented by measures, the practicability and economy of which have been demonstrated.

Such a situation obviously should be of foremost concern to all interested in our national welfare, and especially to those responsible for the administration of local, state, and national governmental business.

Health conditions in our rural districts are of importance to every man, woman, and child in the United States. These districts are the main source of our food, fuel, and clothing supplies. Those who live in the heart of one of our largest cities are in frequent contact with rural life. Under modern conditions of transportation and travel, the association between our rural and urban communities is close. Therefore, progress in rural sanitation is important to the city resident.

Problem Is State and National

Insanitary conditions in a rural district in one state are a menace to the health of the people in other parts of that state and other states. Infection spread from an uncontrolled outbreak of scarlet fever or diphtheria or other communicable disease in a rural community in Maine or Illinois this week may cause outbreaks in California or Florida or any other of our states two or three weeks later. Therefore, progress in rural health work in any state is important to every other state and, thereby, to the whole nation.

The conservation and the promotion of the health of the people in rural communities is important from a standpoint of the national defense. What is done or left undone in this field within the next ten years might be the deciding factor in war, if our country should be at war again within the next hundred years.

The state with the largest taxable resources has the largest financial interest to benefit directly and indirectly from progress in national rural health work and, therefore, properly should bear its proportionate part of the expenses for a national program of rural health work.

From every reasonable standpoint, a marked enlargement in the federal government's participation in cooperative rural health work without unnecessary delay appears critically important.

A baby with 45 mothers stands a good chance of being spoiled. Little Robert Rowan, the gentleman on the right, is anything but pampered although before he is a year old he will have had 77 foster mothers. He is a "practice baby" at the Oregon Agricultural College Practice House, and is cared for by senior students in home economics.

A Practice House Baby

G. ALICE FEIKE WIEMAN

THEY'RE never too young to learn," and "Too many nurses don't spoil the child," are proved sayings at the Practice House of the Oregon Agricultural College. Little Rowan Robert, now 10 months old, came to the Practice House at 9 weeks, a premature baby weighing but 7 pounds—one pound more than at birth. His mother was a victim of tuberculosis. He now weighs 20 pounds, is in excellent health and has learned a lot—as well as giving training to the students caring for him.

Rowen Robert has had forty-five foster mothers, will have thirty-two more before this school year is over, is not a spoiled baby, and thrives under the care of his many mothers, supervised by the guiding hand of Miss A. Grace Johnson.

Mothers Change Every Six Weeks

Without little cooing Rowan Robert, the Practice House would be but a house of grown-ups practicing housekeeping duties, from tending the furnace to presiding as hostess, including the managing of family finance, performing the tasks of laundering, cleaning, cooking, and chambermaid work. But, with Rowan Robert, these college women get the atmosphere of a true home—the experience of caring for a real baby.

The family group changes every six weeks when eight more senior professionally trained home economics women take over the duties of the home. During the six weeks' stay of the family each has her turn as foster mother to Rowan Robert. She has complete care of her fascinating charge—plans his meals as per schedule, bathes and dresses him, takes him for his daily outing and tucks him into his little bed at precisely the right minute.

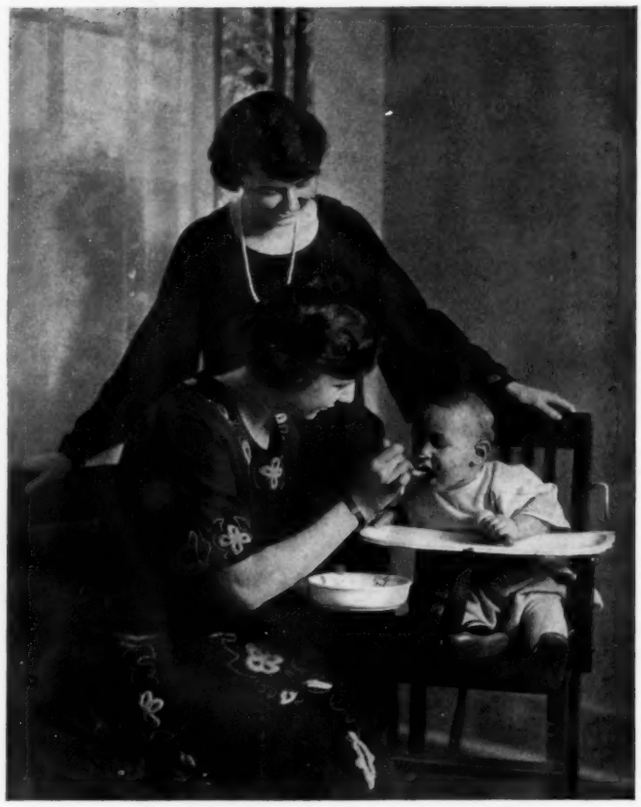
Visitors at the Practice House frankly confess that they expect to find a spoiled, pampered youngster but, without an exception, all have expressed surprise at the most excellent behavior of Rowan Robert when so many persons contribute to his discipline and amusement.

Many Babies Could Benefit by Such Care

Rowan Robert was taken from his sick mother before her death and given dozens of foster mothers, not because it is the ideal way to care for a child; but it only shows clearly that there are, in this world, many children who do have to be cared for temporarily or all of the time by some one other than their parents, and there is the feeling that this opens an opportunity for laboratory work in child care. It gives college women training under expert supervision, and affords the child the care he should receive in his own home.

Should you ask me, "Do you think all Practice Houses should have a Rowan Robert?" the answer would be, "Most assuredly, yes." But, one thing to remember is the evident fact that it is not always possible to find the ideal supervisor. She should be trained for this work, naturally gifted in caring for children, have sufficient experience, and possess the ability to work congenially with college women.

A young woman just out of college or even one long in educational service, without special training, cannot expect successfully to take over the task of the practice house, including a Rowan Robert. Any success in this project is dependent largely on the person in charge.



Baby Gets Medical Attention

The development of Rowan Robert has been carefully checked by the doctor who brought him into the world. This physician has kept vigilant watch over his growth and development—prescribing for his needed changes in diet and accounting for any fluctuations in his condition. He is given regular health examinations and an impending disorder is corrected before it can develop.

The father of Rowan Robert does not qualify his statements in his belief in the training given the young women and the care received by the child there. He says:

"The Practice House is giving my baby unbelievably perfect care. His schedule, his diet and all such things conform to the best scientific principles, but that isn't the most wonderful part of it. Miss Johnson and each of the girls who have taken care of Rowan Robert have given him the sort of care that is more than science-made. It is genuine loving attention, such as I would scarcely have expected from anybody but the mother. I am a booster for actual child care training."

Too Much Rhubarb

L. E. WARREN

RHUBARB is generally regarded as a wholesome food and as an excellent substitute for fruit. Its pleasant, acidulous taste appeals to the appetite at the season when fruit is scarce and high in price. Usually the part eaten is the leaf-stalk stewed with sugar, but occasionally the leaves are cooked and eaten as greens.

Cases of severe poisoning from eating rhubarb leaves occur nearly every year and occasionally a death results from this cause. Sometimes, also, the stewed leaf-stalks cause poisoning. The symptoms are violent vomiting and purging and not infrequently evidences of kidney irritation. These may be followed by unconsciousness and death.

With the recurrence of spring and summer, the agricultural papers usually publish warnings concerning the indiscriminate use of rhubarb and the medical and pharmaceutical journals frequently discuss the subject. Last year several cases of poisoning from eating rhubarb leaves as greens were observed by the editor of the *Rural New Yorker*. He advises not to use the leaves, as there are numerous other kinds of wholesome greens.

Numerous toxicologists have endeavored to find the constituent to which rhubarb owes its poisonous properties, but the problem is not satisfactorily settled.

The leaves contain much more oxalic acid than the leaf-stalks and it is known that they are the more poisonous. The analyses made are insufficient to determine whether or not there is much variation in the oxalic acid content of different specimens, or what influences the soil, climate and season may have on the content of acid in the plant. Malic acid (the chief sour constituent of apples) is present in considerable quantities, but this is harmless.

Since thousands of persons eat rhubarb each season and but few are poisoned, it is evident that this food is not very toxic in the quantities usually eaten. A study of the poisonings reported reveals that the victims usually had partaken freely of the food, usually as greens, less often as sauce, so that a word of caution may be offered as to the quantity that may safely be eaten.

It would appear to be a safe rule never to eat the leaves and not to consume more than one helping of sauce or pie at any one meal.

Seven Keys to School Health

Part II

CHARLES H. KEENE

IN EVERY school, a health room should be provided. It is impossible properly to carry on such activities of health supervision as careful physical examination of pupils, proper segregation of acute infectious diseases, talks with parents and children regarding cleanliness and correction of physical defects, and individual conferences with teachers, unless this can be done by the nurse or physician in privacy.

Any community which is carrying on its health supervision in principals' offices, in book rooms, in school corridors, and in other unequipped, noisy, or semipublic places is making a farce of this valuable adjunct to the school. Ordinarily such a room is spoken of as a medical inspection or nurse's room. It should be called and marked "Health Room," in order to emphasize the constructive side of this activity, and to impress on pupils, parents, and teachers that health supervision is more than merely examination of children for contagious diseases or for physical defects. It should be located as near the office of the principal as possible.

Such rooms should be provided for secondary as well as for elementary schools. While single room rural schools cannot usually have such facilities, consolidated schools can and should.

Every Pupil Needs 100 Sq. Ft. for Play

The school playground should cover at least two acres. As enrolment increases, the area should be added to so that at no time is there less than 100 square feet of playground area per pupil. It should be level. If the region is hilly and a level area of two acres or more is found absolutely unavailable, the ground should be terraced so that there may be an alternation of level area and banking.

The playground should be put in proper condition for children to play on. It should be so graded that it will have a very gentle slope to one side that water may run off. It should be properly surfaced, preferably with a tough turf; failing this, with a mixture of gravel and clay or loam. If a half inch of gravel, known as "torpedo" gravel, is spread evenly over the surface, this will soon mix with the loam or clay and make an excellent playing surface. This gravel should be rolled in, if possible. If the soil is of such a nature as to have a strong tendency for holding moisture, it should be provided with subsoil drainage.

The land is bought in order that the children may have an adequate place to play, and so it should be free from obstacles. While trees are desirable immediately about the building and about the edges of the playground, they should not be permitted on the play area. All stumps and rocks should be removed. The building and outhouses should be placed in one corner of the playground. Walks should run directly from the nearest highway to the building, never across the play space.

Can Equip Playground for $100

It is necessary also to have something to play with. There should be provided such equipment as sand boxes, jump standards, and pits, and certain materials such as volley balls, soccer balls, basketballs, playground balls and bats and, if there are any considerable number of larger boys, basketball and football goals.

Special effort should be made to set off certain strips for running. The finishes for dashes of from thirty to one hundred yards should be marked along these strips. Excellent play material can be provided at an estimated cost of $100 for each elementary school.

While, ideally, all these things should be carried on outdoors, the climate of states north of the Mason and Dixon Line is such that ample provision must be made for working indoors during inclement weather. The gymnasium might well be more of an open air type. It is possible that we shall arrive at a standard gymnasium which is basically an outdoor gymnasium with a roof over it, but provided with pivot-hung glass walls which, except during the most severe weather, may be rotated to the open position.

Every elementary school building should have at least one combination play-assembly room. If the enrolment in the building exceeds 600

pupils, there should be another room of a similar type for each additional 600 pupils or major fraction thereof. The play-assembly room should have a floor area of at least 40 by 60 feet and a ceiling height of at least 14 feet. This should be furnished with adequate play and gymnasium equipment, a satisfactory amount of which can be provided at a cost of about $800.

Need One Gym for Every 500 Pupils

In every high school building there should be one gymnasium. When the enrolment exceeds 500 pupils, there should be another gymnasium for each additional 500 pupils, or major fraction thereof enrolled. Each of these gymnasiums should have a clear floor area of at least 60 by 80 feet and a ceiling height of at least 18 feet. It should be provided with adequate play and gymnastic equipment, a satisfactory amount of which can be purchased at a cost of from $600 to $1,000 for each gymnasium.

Every child should have opportunity, in safety and under proper instruction, to learn to swim. For each junior and senior high school there should be provided at least one swimming pool, 24 by 60 feet, varying in depth from 3½ feet at the shallow end to 8 feet at the deep end.

Field hockey is the coming game for adolescent girls. This game was a part of the sports program at the Chester County, Pennsylvania, field day.

Each junior and senior high school should be provided with a play and athletic field of at least four acres, cleared, drained, graded and surfaced, and laid out into play fields for major and minor sports.

Play Time Should Be Allotted

If the program is to be handled at all adequately, a certain allotment of time from each school day is essential. In the elementary schools the minimum weekly amount of time allowed should be: recesses, 150 minutes; physical education, 90 minutes; hygiene and physiology, 60 minutes.

Ordinarily the recesses are nearly valueless, unless they are so organized that each pupil has some definite thing with which to occupy himself during that time. This necessitates the division of the playground into areas, the allotment of each area to a different group of pupils, and the assignment of certain play material or play activity to each group.

In the secondary schools, the time allotment in all grades should be at least three periods a week. Two of these periods should be used for physical education, the third should be taken for teaching hygiene and physiology through formal classroom work, discussions, debates, news items, organization of health clubs, and the like. In the ninth and tenth grades, it is possible that these things might be incorporated best as a part of the course in science or biology.

In considering proper personnel, the school should have a scheme of organization which provides it with a definite ratio between the number of special experts and the number of pupils enrolled. This is essential for carrying on an adequate health program.

In estimating the number of experts in communities of varying sizes, definite ratios of school enrollment to population are assumed. It is recognized that this ratio varies much for different communities and that local school boards will have to modify the number of suggested experts accordingly. It is estimated that approximately one-fifth of the population is enrolled in the public schools, and that 25 per cent. of this one fifth is enrolled in the secondary schools; that is, in grades seven to twelve, inclusive.

In making estimates of needed personnel it is immaterial whether the schools are organized on the 6-3-3, the 6-6, or the 8-4 plan. The only part of the work where it might make a difference is in estimating the number of needed special instructors in physical education. This difference is more apparent than real, however, as all pupils above the sixth grade should be under the instruction of special teachers in this subject. Unless otherwise stated, the basis used for estimate is the total enrolment, including both elementary and secondary schools.

In some cases several communities will find it an advantage to combine one with the other in employing these various specialists. It is thus often possible to secure a better type of person, as the larger field makes the position really worth while.

Need Full Time Director of Health

A director of school health should be employed full time. If possible, he should be a physician who has had a thorough general education and whose special preparation includes not only medicine and hygiene, but training in psychology, and in the processes of education, particularly health teaching and physical education. Such thoroughly trained individuals are hard to find, but the rapidly increasing demand will tend to create an adequate supply.

Volley ball is one of the few games in which opposite sexes can compete safely.

The director should supervise and coordinate all phases of health work in the schools. These are the activities of health teaching, including nutrition; health and physical examinations, correction of defects, dental hygiene, and school nursing; school sanitation; hygiene of instruction and school management; physical education, including intramural and interscholastic athletics and all recreational activities; and the health of teachers.

The latter element covers such things as the sanitary conditions under which they are compelled to work, arrangement and weight of their program, communicable diseases, and other factors touching on their physical and mental welfare. Such a unifying director probably is not needed until a community reaches a population of 25,000.

When a community reaches a population of 500,000, there are distinct advantages in employing a full time supervisor of health who should be a physician, responsible for planning and coordinating the activities of school physicians, school nurses, dental hygienists, school clinics, and the health phases of the activities of the teachers of special classes. He should work directly under the general supervision of the director of school health.

A community of this size should have from twenty to twenty-five school physicians and double that number of school nurses, as well as dentists and dental hygienists. The problem has become too large for the director of school health working alone to give it proper supervision.

1250 Pupils Need Doctor One Hour a Day

School physicians may be employed on a part time or full time basis. The standard should be one hour a school week for each 250 pupils. Approximately, this means one hour a school day for each 1,250 pupils, or three hours a school day for each 3,750 pupils. In large cities where there is adequate districting and supervision, this number may be increased to 4,000; in small communities, it will often be necessary to diminish it somewhat.

The school physician should make routine examinations of sanitary conditions, and should examine children or teachers who are suspected of having communicable diseases. Complete physical examinations of pupils should be made in the presence of parents, whenever possible. Pupils should be examined each year in the lower three grades, and should receive at least two additional examinations while in grades four to nine.

These physicians should be a factor, too, in the efforts toward forming proper health habits and activities among pupils. The physical or health examination offers opportune time for instilling ideals in regard to proper health habits. Frequent opportunities should be given for discussion of health matters with teachers, parents, and older pupils. This amount of work cannot be accomplished unless there is also an adequate number of school nurses.

One School Nurse for Each 2,000

At any time after the number of school nurses reaches three, one of them should be designated as directing nurse. The directing nurse should carry on regular district work, as well as lead the activities of her colleagues. As soon as the number of school nurses reaches twenty, a supervisor of school nurses should be appointed, who would give a large proportion of her time to supervision. The rest of her time should be used for other things; she might even be assigned a small district. In larger communities, the standard should be one supervisor or assistant for each thirty nurses or major fraction thereof.

School nurses should be full time employees. One is needed for each 2,000 pupils or major fraction thereof. In small, scattered communi-

School clinics often save the child. This is a view of a school dental clinic in Philadelphia.

ties, it is often found that the school nurse cannot adequately supervise her proper field of work if there are more than 1,000 pupils assigned to her.

The nurse should always be present when the school physician is making physical examinations. She should teach those parts of the syllabus in hygiene relating to first aid, home nursing, and the care of young children. She should assist teachers in leading children to form proper health habits, and should take advantage of times when children are being taken to dispensaries or clinics for treatment to instill into them ideals in regard to proper care of their bodies, emphasizing the fact that proper health habits probably would have prevented the need of treatment arising.

She has a very definite field in bringing closer together the school and the home. One of her most valuable activities is persuading parents to have physical defects of pupils corrected; another is the effort to bring about real functioning in the home of those health matters taught in the school. Her activities diminish the amount of absence from school.

A school dentist should be employed usually on a part time basis. One school dentist working three hours a day, six days a week, can care for the corrective and reparative work on the teeth of approximately 15,000 school children. This is assuming that he has the assistance of an ample number of dental hygienists. He should make reparative treatments on the teeth of those children whose parents cannot afford to have the treatments made by the family dentist, and should supervise the activities of the dental hygienists.

One Dental Hygienist for Each 4,000

A dental hygienist on full time service should be employed for each 4,000 pupils or major fraction thereof in the lower six grades. These dental hygienists are strong factors in teaching children and parents proper health habits in regard to the care of the teeth, and in putting teeth in proper condition for reparative work by the dentist. They should work very closely with the supervisor of hygiene and nutrition in regard to health habits, particularly in regard to selection of foods.

A supervisor of physical education and recreation should devote all his time to coordinating and supervising the physical education and recreational activities of school and community. He will supervise the work in physical education in the high school, possibly teach some of the classes of boys there, and will have general supervision of this work in the elementary schools. He should hold frequent meetings of teachers, that they may be properly instructed in regard to physical activities, and should organize and direct intramural and interscholastic contests among all the schools, both elementary and secondary. He should bring about closer correlation between the physical education activities and other factors in the school health program.

Town of 3,000 Needs Physical Supervisor

Any community having a population of 3,000 or more needs such a supervisor. He can handle the work alone until the community reaches a population of approximately 10,000.

When a community reaches this size, there must be added an assistant supervisor of physical education, preferably a woman. The standard should be one assistant on a full time basis for each 300 classroom teachers whose work in physical education is to be supervised. This will mean usually the lower six grades, but in some communities the seventh and eighth are included.

The assistant's activities correspond to those of the supervisor. She should have direct supervision of the teaching of physical education in the classrooms, the organization of plays and games for younger children, and the proper interrelation of academic and play activities throughout the lower six grades. Until the community reaches a population of 50,000, all of her time is not needed for supervision, and varying proportions of it may be used in teaching physical education to girls in the secondary schools.

A community having a population of 20,000 should add to its physical education force one high school instructor in physical education. When the population reaches 30,000, probably an additional high school instructor will be needed. When more than one is employed, men should be employed to handle the work of the boys, women for the work of the girls.

Summer Playgrounds Urged

It is ridiculous that the school plants of America, having a valuation of billions of dollars, should be used only five hours a day, five days a week for nine months of the year. Physical and other recreational programs should be organized by the board of education and the buildings thus used constantly outside of regular school hours. A budget allotment of 25 cents per child per year would do much in this phase of physical and mental health.

Summer playgrounds should be organized by the board of education, and a sum of at least 25 cents per school child should be set aside annually for their maintenance. These may be separate play areas, or they may be properly equipped school yards, provided school yards of sufficient size are available.

A supervisor of health training and instruction should be engaged in every community of 25,000 or more. She should have charge of the teaching of hygiene, including the nutrition work of both elementary and secondary schools.

This "Health Room" is used for teaching hygiene, first aid and baby care, as well as for making physical and health examinations.

Preferably she should be a person who has been a classroom teacher, who has had special training in school hygiene, personal hygiene, formation of health habits, the organization of the teaching of hygiene and its interrelation and correlation with other subjects in the curriculum, and in nutritional activities.

Special Classes for Children with Defects

Each community having a population of 30,000 or more should have a supervisor of special classes, not only to organize and correlate the work of these classes as regards each other and the school system as a whole, but to work out the organization of each type of class and supervise the instruction given in them.

This supervisor should also have special training in clinical psychology, so as to be able to classify pupils psychologically, to designate those who should enter the different kinds of special classes or be sent to a psychiatrist, and to assist in working out general school problems in mental hygiene.

In the smaller communities, psychological examinations should be made by one of the teachers of special classes for the mentally subnormal, or by the supervisor of special classes. In communities having a population of 75,000 or more, there should be organized a department of child study. In such communities the psychological examiner should be a person giving practically whole time to clinical psychology. He should work very closely with the child study department of the public schools, or be a member of the child study department loaned to the health organization for psychological work.

Probably 4 or 5 per cent. of the pupils in the schools need help in the correction of defects of speech. Ultimately this percentage will be markedly cut down by better training of teachers, so that they may check in its early stages any tendency toward speech defect.

At the present time, however, it is probable that every community of from 25,000 to 30,000 people or more needs the part time services of a specialist in speech correction. This person may be employed on a part time basis, or the supervisor of special classes may be given special training along this line. In a community of 75,000 population undoubtedly a need exists for this work on a full time basis.

For giving much needed special training and educational facilities, special classes should be established for the mentally subnormal with fifteen to twenty pupils each; for the deaf and semideaf with not more than twelve pupils each; for sight-saving with not more than twelve pupils each; for crippled children with twenty to thirty pupils each.

For restoration to health, special classes should be carried on for the undernourished with not more than thirty pupils each, and open air classes, varying in size from twenty to thirty pupils each, depending on how many such classes may be gathered in one building, should be maintained for those pupils showing marked malnutrition or living in homes where active tuberculosis exists. The classes require specially trained teachers.

Dental clinics should

Fitting glasses can be properly done only by an expert. Most school systems in the larger cities have special eye clinics.

be maintained as a part of the school organization in all communities, preferably in the school building. Eye clinics, and nose and throat clinics should be maintained by school authorities if the community does not already have such facilities elsewhere. Nose and throat clinics should not be located in school buildings. In cities of 50,000 or more there is special eye work enough to warrant the establishment by the board of education of an eye clinic, for conservation of vision, as well as for diagnosis and fitting of glasses. The cost of clinics will vary largely with their organization, whether or not they are partially self-supporting, where they are located, and whether or not they are rent free.

While the total amount of money needed for health activities seems like a large expense, we must remember that these are fundamental in the life of the child, if he is to be made an efficient citizen.

Many communities are already providing a large proportion of these facilities but, without proper coordination or correlation, several links are missing that are needed to make a complete, fully functioning, health organization within the schools. When we reduce the cost to a per capita per annum basis, we find it to be only $5.50 to $6 per pupil per year. This is about 8 per cent. of the amount actually spent for the schooling of each pupil per annum.

This expenditure bridges the gap between physical handicaps, sickness, absence with resulting retardation, pain and sometimes death on the one hand, and a modern school system "training for complete living" on the other.

All of these activities are definitely problems in education. It is the duty of the board of education and superintendent of schools, therefore, to finance, organize and supervise them as a part of the schools. Only thus may we expect the proper correlation of these things one with the other, or with the rest of the school program.

It is only when boards of education and other school officials grasp the fact that guarding the health of children is not only the privilege but the duty of the schools, that we shall have a fully functioning organization for school health.

Drink Six Glasses of Water a Day

DRINK six glasses of water every day" was advised in a recent radio health talk of the New York state department of health. This is the doctor's order, not for the invalid, but for the person in health.

The prescription is so simple and inexpensive that many do not appreciate its importance. And yet, for those who have good health and wish to keep it, plenty of water every day is an absolute necessity. "Plenty" is about six glasses.

There are several reasons why so much water is necessary. Water softens the food we eat, making it more easily digested and absorbed. It so dilutes the digestive juices that they can reach and act on every particle of food. It dilutes the blood and lymph and keeps the membranes moist. It helps to regulate the body temperature by distributing heat to its various parts and by disposing of surplus heat through perspiration. It is a most important factor in the removal of waste.

Body Is Two-thirds Water

The food which is burned in the body to keep us warm and give us the power to work and move produces waste just as the burning of coal produces ashes. Then, too, there is a constant breaking down and wearing out of the cells and tissues. This broken down and worn out material is thrown into the blood to be excreted by the skin, lungs, kidneys and intestines. Copious water drinking aids the action of these organs and prevents the accumulation of poisons in the system.

Every tissue and every organ of the body, even the teeth, contain water. In fact, the body is about two-thirds water and this proportion must be maintained. Every day about five pints of water is lost through the various organs of elimination and this loss must be made up if the human machine is to do its work properly. Since only a part is replaced by the food that we eat, it is necessary to make up the deficit, which amounts to about six glasses.

Too Little Water May Cause Headache

Simple and necessary as it is to drink plenty of water there are many who do not take a sufficient quantity. Such people are accustomed to give their systems less than the required amount and although they may suffer from headaches and indigestion they never dream that lack of water has anything to do with such disturbances.

If, therefore, you have not been in the habit of drinking six glasses of water each day commence to do so at once. Take one or two glasses in the morning before breakfast, preferably hot. This will tone up the stomach for work. Take the other four during the day. They will act not only as a flush to the stomach and intestines but will stimulate the liver, kidneys and skin to healthy action.

There is no objection to drinking water at meals, provided there is no food in the mouth; otherwise there is a tendency to wash the food down without sufficient mastication.

Look on water drinking then as another health habit—and make it a point to drink six glasses every day.

"Neighborly Diseases"

III. Measles

LUDVIG HEKTOEN AND ETHEL B. PERRY

MEASLES: a disease of childhood. That definition holds only in a country where every inhabitant, except the children, has once had measles. In this country, the Navy has found the disability from measles among newly enlisted men so high that some officials believe a certificate of a previous attack should be required for admission.

Age No Guarantee Against Measles

Those adults who feel themselves safe, by virtue of their years alone, will find disillusionment in the stories of certain epidemics.

In 1875 measles, for the first time, came to the Fiji Islands. Men, women and children took the disease with equal ease, and so many were sick that nobody was left to care for them.

The natives thought a curse had been put on them, and "acted in ignorance, superstition and despair. They bathed in cold water or exposed their bodies to cooling influences, such as night air, drafts, or damp earth, when in a state of high fever. The terror, suffering and fatal results were appalling." The general lack of cleanliness and of proper care of the dead also added to the dreadfulness of the situation.

Contrast this epidemic with another on "virgin soil" which also included nearly every inhabitant regardless of age, but had not one fatal result. In this instance the nature of this sickness was understood and proper care was given.

Measles disappeared from the Faroe Islands for sixty-five years, then was reintroduced in 1846 by a cabinet maker from Copenhagen who was exposed before he sailed and came down with the disease a few days after landing. The spread of the disease throughout the seventeen islands was studied by a government inspector named Panum.

On one occasion ten men returned to their native village after exposure to measles. Everybody came in touch with it, and eighty of the one hundred inhabitants were sick at about the same time, but no one who had had the disease, sixty-five or more years before, took it again, although persons of seventy or eighty not protected by a previous attack acquired it as readily as children of seven and eight.

Out of the total population of 7,782, six thousand had measles; no one who was exposed escaped except those sick with it in 1781 or before; and each patient broke out with the typical rash just fourteen days from the time of exposure.

Measles Shortens Length of Life

This same investigator, comparing the length of life in different countries during the eleven years preceding the epidemic, found that for the Faroe Islands the average was 44.6 years, with the period of greatest mortality between the eightieth and ninetieth years, while for the English the average life was 38.5 years, and for the Danes 36 years, with the greatest number of deaths between the sixtieth and seventieth years. These figures, Panum thought, indicated an increase in the length of life because of the absence of this early infection.

Still further points of interest about measles are brought out in reports from the army camps in 1917-18. Camp Pike, filled mostly with country boys, had sixty-two times as many cases of measles as Camp Upton, which received drafted men from the city of New York. For all camps the number of cases of measles ran parallel to the percentage of the camp population that came from rural districts.

When measles disappeared from a camp it meant one thing—that there were no more susceptible men—for all possible measures of isolation and quarantine were unsuccessful and the disease went on until every non-immune person had it.

Deaths due to simple measles were rare. The danger lay mostly in the secondary pneumonia that in some camps attacked as high as 33 per cent. of all the measles cases. Also, fatal results from all pneumonias were estimated to be ten times more frequent in those that had a preceding measles.

Five Facts about Measles

From these accounts, important general facts about measles stand out.

1. The disease is highly contagious, perhaps even more than is smallpox, requiring only that a susceptible person come into the same room with a measles patient; resisting ordinary methods of control by isolation, and stopping only when no non-immune person is exposed.

2. It is confined to childhood simply because most adults have once had the disease. This

is especially true in cities where the chances for exposure are greater.

3. It is, when well cared for, rarely fatal, but when inadequately treated measles may rank in its fatality among the greatest plagues of the world.

4. Pneumonia is the most common disease following measles and such pneumonia cases are more fatal than other pneumonias.

5. Freedom from measles is claimed to lengthen life.

Measles is an old disease that has followed man practically since history began. In the ninth century Rhazes, an Arabian, described measles as a mild form of smallpox. Much later, in England, Sydenham considered it a distinct disease, but writers following him included under the name measles sicknesses that are now recognized as scarlet fever.

Symptoms of the Disease

A person coming down with measles has "a cold in the head," sneezes, the nose runs, the eyes water, the lids are red and perhaps swollen, there is often a cough, and a slight fever.

These are the catarrhal symptoms that are so easily and so often not recognized as the beginning of measles. There may be a headache, slight or severe, and possibly nausea and vomiting. The tongue is furred, not dry, and the mouth and throat are red. On the level with the lower molar teeth there appear on the mucous lining small red spots with bluish-white pin-point centers. These are the "Koplik spots" usually looked for by the doctor which are typical of measles. The fever and all of the symptoms grow worse gradually so the patient is usually very sick and uncomfortable when, about the fourth day, the skin eruption appears.

If diagnosis is not made until there is evidence of eruption, and especially if the person has been going about for even part of this "catarrhal" period, the damage is done so far as spreading the disease, for the early period is the most contagious.

The infectious organism—whatever it may be—is evidently very small, easily carried in fine spray from the mouth or nose, and probably from watering eyes, so that a person standing near or even in the same room with a patient can easily get measles.

Happily the virus is easily killed by sunshine and air. Measles is seldom carried, as is scarlet fever, on clothes, pencils, dishes, food, in milk, or in well persons' throats. It might be possible for a nurse or a mother in close contact with a patient to "carry" the disease by going directly to a third person so soon that even a short-lived virus would still be alive and capable of infecting. Of course, it is well to avoid this possibility.

But the great danger of contagion lies in the "atmospheral" nearness of a person who has not had the disease to another person who has it, particularly if the latter is in the early stage of disease that usually goes unrecognized.

This early contagious period, resulting in unsuspected exposures, accounts for the failure of the usual methods of isolation. The patient should be kept in a room by himself, with no visitors, until all catarrh is gone. This usually is a few days, possibly a week, after the rash appears. No articles should be taken from the room without disinfection, and the attendant should remove a protecting gown and wash her hands before leaving the room, even then keeping away from close contact with persons outside. These methods may be adequate for the time but they usually come too late, after part, at least, of the most contagious period is over and the number of exposed people is too great to be dealt with, even were they known.

Patient "Breaks Out" after Four Days

The skin eruption that comes out about four days after the first symptoms and about fourteen days after exposure most often appears first on the forehead, or along the edge of the hair. Little red spots like "flea bites" come out, grow in size and in number, form clusters and figures of different sizes over the face, which is somewhat swollen. These patches can be felt better than seen and seem to be slightly raised above the surface of the skin. The "breaking out" spreads to the chest and body and finally to the arms and legs. The brightness of the color and the swelling of the skin are most marked on the face and least on the extremities. The figures on the body are particularly blotchy. The rash begins to fade a few days after its appearance and fever and other symptoms diminish; a general scaling of the skin follows, and in the second week the patient begins to get better.

Measles alone is rarely fatal to the young child, especially under four, but for the tuberculous, rickety or generally weak child, it is a dangerous disease.

A child may be born with measles if the mother is having it, but a child born of a mother that has had measles during pregnancy is immune for several months. To turn this immunity acquired from the mother into a lasting immunity, babies have been inoculated with measles virus when five months old. Because of their partial protection, these babies have measles in a very light form, and in some cases they seem to be protected, for they were exposed later without taking the disease. This is quite recent work, however, and may still be regarded as somewhat experimental.

Blood taken from a patient during the eruptive stage seems to carry the disease, if injected into a susceptible person. On the other hand blood taken from a patient about two or three weeks later will apparently protect a person into whom it is injected. In fact for the protection of weak children under four years, especially for children in hospitals or institutions where exposure is fairly certain if a case breaks out, the use of this convalescent serum has been very helpful.

Serum Sometimes Helpful

Serum is the clear fluid part of the blood, and if from one half to a full teaspoonful of this fluid taken from a person just recovered from measles is injected into a three or four year old child within five days after exposure it seems to stop the disease completely, for that time at least.

Bronchitis, pneumonia and tuberculosis find fertile ground in the person with measles, especially if there is a lack of care. "He caught cold after measles" is the old story. Keep the patient in bed, protected from drafts or any chilling influence; give him light nourishing food with plenty of water, and continue the careful attention during the convalescence.

Knowing how contagious measles is, how dangerous it is for the weak child or for anybody who cannot be given proper care, parents should consider very carefully two things: the temporary protection of the young or weak child during an epidemic or following any exposure, and permanent protection for the older child so he may not run the risk of having the disease under unfavorable circumstances.

For the first, convalescent serum has proved useful; for the second, some parents have tried definite exposure of healthy children about seven or eight years old. The good health of the child, the assurance of proper care under chosen conditions, the possibility of complete early isolation of the patient with consequent control of the disease are all advantages.

Since these courses are not generally followed, the best one can do is to recognize the possibility of measles when the child has watering eyes and a cold in the head with any signs of fever. Keep him from school and away from other children for a few days. It is a harmless act and may mean safety for many.

Not Too Late to Enter Poster Contest

EVERY mail brings HYGEIA its quota of health posters from high school boys and girls all over the United States who hope to carry away the $100 prize, or one of the forty-seven other awards, to be given in the contest.

Young health propagandists from every state in the union are now competing, and to carry away one of the prizes or even to be among the fifty students given honorable mention will be no mean achievement.

It is not too late to enter the contest even now, for the last design does not need to reach the office of the Poster Editor until midnight of May 31.

In addition to the $100 first prize, there will be a second prize of $60, third prize of $40, fourth prize of $30, fifth prize of $25, sixth prize of $20, and seventh prize of $15. The six posters ranking next in merit will receive an award of $10 each, the next ten will be given $5 each, and another twenty-five contestants will get $1 each. Fifty posters will be given honorable mention.

Conditions governing the contest are as follows:

1. The *subject* of the poster may be any topic having to do with health.

2. The *size* of the poster must be either 22 by 28 inches, or 14 by 18 inches. It may be made on suitable paper, cardboard, or canvas, and may be done with crayons, pencils, ink, water color, or any other medium suitable for the purpose.

3. The *name* and *address* of the person drawing each poster, together with his age, the school which he attends, and the name of the teacher under whose supervision the poster was made, must be written plainly on a separate sheet of paper, placed in an envelope, to be sealed and attached firmly to the poster by clip or pin. (As the posters are received each will be numbered, the sealed envelope being given the same number. Thus the names of the contestants will not be revealed until the committee has decided on the merit of every poster submitted.)

4. The contest will close at midnight, May 31, 1924. No posters received after that date can be considered.

5. Posters may be sent by registered mail, parcel post, or by express. They must not be folded or creased, but mailed flat, between stiff boards, or carefully rolled in a stout mailing case.

6. All posters to be addressed to Poster Editor, HYGEIA, 535 North Dearborn Street, Chicago, Illinois.

Health posters made by grade school children in Superior, Wis.

Great originality in idea and design is displayed in the posters submitted Judges Hugh S. Cumming, John T. McCutcheon and William B. Owen will make the choice from excellent material.

How Syphilis Became a World-Wide Plague

VICTOR C. VAUGHAN

MEDICAL historians have disagreed on the question of the existence of syphilis in Europe before the discovery of America. Those who believe that syphilis did not exist in Europe before that time have four answers to the question.

1. There is no mention in the writings of medical men in ancient times of a disease which could possibly have been syphilis. It is not likely that a disease with such well marked symptoms and lesions could have escaped the keen observation of such wise men as Hippocrates, Galen, and Aretaeus.

Early Writers Do Not Mention Disease

Not only were the medical men of pre-Columbian days silent concerning syphilis, but there is no hint of the existence of this disease in the writings of the poets, satirists, historians, or any of those who made record of their observations or their fancies. It is very properly asked why, if so disfiguring a disease existed in Europe, there is no record of it.

2. Syphilis is the one disease which leaves evidences of its ravages in the least destructible tissues of the body. The bone lesions of this disease are characteristic and persist as long as the bones retain their form and structure. Certainly if this disease existed even as a rarity some traces of it should be found among the thousands of skeletons of pre-Columbian days which have been examined. Writers, sacred and profane, lay and medical, in prose and in poetry, in exhortation and in ridicule, have left no doubt as to the sexual promiscuity of many people at many times, and it must follow that if syphilis had existed it would have been widely distributed. There is no trouble in finding syphilitic bones among post-Columbian Europeans.

We may be asked what is the evidence that syphilis existed in America before the time of Columbus. The answer to this question is not altogether satisfactory. Plenty of syphilitic bones have been found in Mexico, Central America, and Peru; but it is not easy to determine with certainty in what centuries these bones were covered with flesh and constituted the framework of living bodies. In the western hemisphere conditions for the long preservation of bones have not been so favorable as they have been in some parts of the eastern hemisphere. Besides, reliable permanent records are wanting.

3. Columbus sailed from Spain on his first voyage of discovery in August, 1492. After spending some time establishing a colony on the Island of San Domingo (Haiti), he returned to Spain in March, 1493. On his return, the Spanish court was at Barcelona so he repaired to that city.

Columbus' Sailors Infected

Recently (1882), there has been found a manuscript written by a Spanish physician who treated some of the sailors who had accompanied Columbus. In this manuscript there is an unmistakable description of syphilis, with the recognition by the reporting physician that it was a disease heretofore unknown in Spain, and that it was observed at first only among those who had accompanied Columbus.

4. When the Spanish invaded Mexico, Central America, and Peru, they found that syphilis was widely prevalent, and that it had existed long in the past was indicated by the disease having attached to it a name firmly established in the several languages of the aborigines.

We must conclude that the weight of evidence is strongly in favor of the opinion that syphilis was unknown in the eastern hemisphere before the discovery of America, and that it was first introduced into Spain by the sailors accompanying Columbus on his first voyage. Subsequent voyages contributed in the transfer of this disease from new to old world.

Among the historians of the time of Columbus we may mention Oviedo and Las Casas, who were contemporaries and bitter rivals. Both spent many years in the West Indies and occupied high positions. Both wrote histories of the West Indies and each characterized the book of the other as containing as many lies as it did pages, but both agreed that syphilis was prevalent in the West Indies, notably in Haiti, and that the sailors accompanying Columbus became generally infected with this disease and carried it to Europe. Like testimony is given by the priest Pane, who also wrote a history of the discovery of America.

Charles' Army Spread Disease in Italy

In March, 1494, Charles VIII of France, putting forth a claim to the kingdom of Naples, raised an army and invaded Italy. The army of Charles consisted of a motley crowd of about 32,000 men, of whom about 10,000 were from Picardy, 5,000 from Gascony, 6,000 from Switzerland, and the remainder consisted of English, Italians, Spaniards, Hungarians and Slavs.

This invasion had the nominal sanction of Ferdinand, king of Spain, but this wily monarch surreptitiously sent Spanish soldiers across the water to Naples to assist in defending the city against Charles when he should arrive.

During the time between the first return of Columbus and the invasion of Italy by Charles, syphilis was being widely distributed among the sailors and soldiers of Spain; some of these accompanied Charles by land, while others crossed the water directly to Naples. Charles was at that time under thirty years of age, without experience in military matters, evidently possessed of much vanity, and given in no slight degree to venery.

The march of Charles through northern Italy was in the nature of a triumphal procession. On his staff were historians, poets and chroniclers of wide diversity. These have left full record of the success of their monarch in love, although they found but little to say concerning his military genius. The invading army, we are told, was accompanied by many prostitutes; moreover, every Italian city made up all sexual deficiency and supplied not only the common soldiers, but the higher ranks even to the king himself.

From city to city in Italy this gallant army marched, being received at every gate with open arms. Chroniclers tell how impressed the men from the north were with the beauty of the landscape, the deep blue of the sea, the majesty of the mountains, the wealth of the inhabitants, the sculpture and paintings, and the freedom of life in the open which they characterized as a reflex of the ancient civilizations of Athens and Rome. These men from the more rugged north were captivated by the land of the citron and the orange, and above all, says the chronicler, they were captivated by the bright eyes and enticements of the Italian women.

On the last day of the year 1494, Charles and his army entered the Eternal City. Here he rested for four weeks, during which time he was invested with the power to cure scrofula by the laying-on of hands. The throne of St. Peter was occupied at that time by Alexander VI, himself born a Spaniard and given to the importation of Spanish courtesans into Italy. According to Bloch, the number of prostitutes in Rome was never so great as during the reign of this pope.

Quacks Owe Debt to Charles

Charles' eighty-day stay in Naples was one prolonged orgy. Most historians speak of the siege of Naples by Charles. There was in reality no siege. The city opened its gates and welcomed the French king. It is true that a small garrison in the Castello del'Uovo, occupied by Spaniards sent over by Ferdinand, made temporary resistance.

It is a question whether the virus of syphilis first reached Naples with the soldiers sent for its defense from Spain or with those who accompanied Charles; probably through both channels. Charles and his retinue soon became undesired guests, and May 20, 1495, Charles took up his return to France, leaving a garrison of 6,000 men.

Charles' greatest claim to recognition by the historian lies in the part which he played in the distribution of syphilis. Medical quacks, especially those who treat diseases "peculiar to men," owe a debt of gratitude to this hair-brained king. Indeed, a great medical imposter more than a hundred years later wrote that he never passed the image of Charles VIII without taking off his hat in recognition of the financial service which this monarch had rendered him and his ilk.

Syphilis Carried Over the World

On dispersion of the army of Charles VIII, syphilis was carried to every country having a representative in the motley crowd. Moreover, the expedition of Charles had exposed at the same time the military weakness and the great wealth of Italy, and for nearly three centuries the Italians had no history of their own. Invasion after invasion from the north followed, as had been the case many centuries before. Hapsburg and Bourbon fought on Italian soil, while the Italian people were haggled over like dumb driven cattle.

Syphilitic infection throughout Italy became almost universal and what this means is told in the following words, which are taken with some freedom in translation from Hensler:

> There are many diseases more disabling and more deadly to man than the venereal infection which appeared near the end of the fifteenth century; but without exception there is none, no malignant infection, no pestilence, no black death which has left such fearful effects, none which has implanted in the womb of the future so much evil.

Soldiers, sailors, merchants, tramps, and men and women in all conditions and positions in life aided in the distribution of the virus of this disease. Vasco da Gama carried it around the Cape of Good Hope and distributed it throughout the orient. Magellan, sailing in the opposite direction, reached the same, as well as other ports, and carried with him the blighting curse which has continued through generation after generation to the present time.

Plain Facts about Health and Disease

HEALTH NEWS OF THE MONTH

Observe May Day for Child Health

The American Child Health Association is making national preparations for the celebration of May Day with a view to having attention given throughout the country on that date to the promotion of child health. The movement has been endorsed by President Coolidge and the support of prominent men in public and private life has been solicited, so that the celebration will have the highest possible backing.

It is generally well known that the care of the child in many communities is at its highest point. However, the unevenness is great, so that the range between the highest and lowest constitutes a serious condition. There is a lack not only of proper hospital facilities for children, but also of prenatal care and particularly of proper care of the child during the first few years. In connection with the national celebration, the Child Health Association is planning special publicity through the press, motion pictures and the use of the radio.

Copper Destroys Vitamins

Since the discovery of the vitamins — those mysterious substances in foods, which give to them the property of sustaining life and promoting growth—a search has been made to discover the various influences which may affect their permanency.

About four years ago some New York investigators showed that the vitamin which is responsible for the prevention of scurvy is destroyed by oxidation. The practical aspect of this discovery is emphasized, for example, by the fact that breast milk had been preserved in Germany by the addition of small quantities of hydrogen peroxid without reference to the fact that the oxygen thus added destroyed the antiscurvy vitamin.

Recently another practical discovery of importance has been made, which is a demonstration of the intricate influences exerted on these substances through various contacts. It has been found that if food substances are heated in the presence of copper, the antiscurvy vitamin is killed through the action of the copper as a catalytic agent. For those who are not informed in matters of chemistry, it may be explained that a catalytic agent is one which acts by its presence to accelerate chemical reactions. It has been known for some time that copper acts to hasten and intensify oxidation.

The significance of this is that milk is frequently pasteurized in copper kettles, and if a sufficient amount of copper is released, the antiscurvy vitamin in the milk will be destroyed.

Furthermore, the antiscurvy vitamin is not the only one affected by oxidation, because the fat soluble vitamin, known as vitamin A, is also readily destroyed by oxidation. It is, therefore, important in preparing and packing food substances to consider contamination by copper, not from the standpoint of the amount of copper necessary to cause copper poisoning, but equally as to whether or not the amount is sufficient to encourage oxidation. This amount, investigations have shown, is very small indeed. It is possible, if not probable, that less than .0025 grams will have a deleterious effect.

M. F.

HOW TO SELECT YOUR DOCTOR

A READER asks if something cannot be said in the pages of HYGEIA about the choice of a doctor for persons moving to a strange city and unacquainted with the merits of the several physicians there. Under other conditions the question arises "What doctor shall we call?" and it is a puzzling problem. Certain suggestions can be made which will be helpful in solving this problem. The doctor to be called should be:

1. A licensed practitioner in the state.

2. A practitioner of scientific medicine unrestricted in his choice of what to do by adhesion to any dogmatic system of treatment which declares all disease to be due to some one kind of defect, or which dictates the choice of a remedy on some narrow basis. In other words he should not belong to any "school" of medicine or a cult. There is no such school as "allopathy."

3. He should be a graduate of a medical school known by recognized authorities to be among the best of the medical schools at the time he was graduated in medicine.

4. He should be an active member of his local medical society, and through it the state medical society and the American Medical Association.

5. He should be a man of good personal habits, and regarded by his fellow citizens as a reputable member of the community.

6. If it is possible to learn of a physician who is called by his fellow practitioners when they are in need of medical service for themselves or families, this fact constitutes one of the best guarantees of his quality as a physician.

7. Members of the medical staff of a well conducted hospital are usually capable and trustworthy physicians.

Always to be avoided is the physician who advertises boastfully of his skill or who guarantees a cure, and also the peripatetic quack who travels from place to place remaining in a town but a few days on each visit.

In the matter of consulting a specialist in surgery, in diseases of the ear, nose and throat, diseases of the eye or what not, the advice of a general practitioner should usually first be sought. The custom which has been growing of late years, of the sick seeking at first hand the services of a specialist, is rarely wise. It is seldom possible for a lay person to determine from his symptoms that they are due to disease of some one part of the body. If he is sick enough to require the services of a physician he should first have a careful, general examination. It is for the family doctor or general practitioner to determine what, if any, portion of the body is in need of special attention.

How are all these facts to be ascertained by a newcomer to a strange city?

It is not always wise to rely on the opinion of a neighbor, a fellow church member, or of a member of a lodge or association to which one belongs. When one is changing his residence from one city to another, he should ask his family physician to tell him who are the good doctors in the city to which he is removing. If he does not chance to know about them he can usually get the information from his fellow practitioners. The secretary of the county medical society may be asked to give the names of the members of that organization who practice in the neighborhood where the inquirer lives, or this information may be obtained from the health officer of the city or county, or from the secretary of the state medical society.

A list of the physicians of the United States, classified by states and communities, is published at intervals by the American Medical Association. It is known as the American Medical Directory. It would be a convenience to many if this directory were accessible to all persons in the public or school library, or in a leading drug store.

From it one can ascertain the academic history of any physician in the community, the school from which he was graduated, and, by writing to the Council on Medical Education and Hospitals of the American Medical Association in Chicago, he can ascertain the status of the medical school which the doctor attended at the time he was graduated from it. From the directory, also, he can learn whether or not the physician is a member of his local medical society or a fellow of the American Medical Association. All these items of information would be very helpful to any person in selecting a competent and trustworthy physician.

The directory contains the names of all of the physicians of the United States whether they are or are not members of the American Medical Association. Some physicians who are not members of the Association are reputable and trustworthy, but, the fact that a physician is allied with such an organization is presumptive evidence of his professional character and standing.

J. M. D.

NARCOTIC ADDICTION IN THE UNITED STATES

LEGISLATION introduced into Congress regulating the international control of narcotic addiction again brings this perennial problem into the limelight. It is, therefore, of interest that two physicians who have given special attention to drug addiction in two of the greatest cities in the United States should make available at this time summaries of their experience and conclusions as to the best methods of meeting the situation.

Dr. Carleton Simon, special deputy police commissioner, in charge of the narcotic division of the New York City police department, is convinced that the control of drug addiction is a police, rather than a medical, problem. During the past year, he sent a questionnaire to every physician and dentist in the state of New York. The results of this questionnaire have permitted him to point out certain facts:

In about 10,000 instances in which drug addicts were arrested and committed to hospitals for cure during the last three years, 98 per cent. admitted frankly that their addiction was due to association with others who had been addicted, and that there was no reason, such as disease, for causing them to begin the

use of narcotics. The remaining 2 per cent. gave various excuses, principally surgical operation or illness. Ninety-five per cent. of those arrested in New York City were addicted to heroin and cocain. Heroin is preferred because of its greater potency.

In this connection, the American Medical Association, through its House of Delegates, stated some years ago that heroin was unnecessary for the practice of medicine, and recent legislation tends to prevent its manufacture and sale entirely.

A careful analysis of the records of the New York police department indicated that out of 8,174 users of narcotics, 876 (mostly Chinese) were smokers of opium; 27 smokers of hashish (also known as cannabis indica and marahuanna); 379 used morphine only; and 6,892 used heroin alone or combined it with cocain.

On the whole, Dr. Simon found that narcotism had decidedly decreased in New York City during the last three years. Beginners are now rarely found among addicts taken up by the police. While 10 per cent. of the addicts arrested are women, it is believed that the percentage of female addicts is much greater. This is explained by the fact that women addicts seldom make their purchases on the street, as do male purchasers.

In contrast to the situation existing in New York City, the Chicago physicians, who have treated more than 5,000 patients addicted to drugs, found morphin the drug chiefly used in the Middle West. The availability of a drug seems to determine largely the nature of the majority of addictions. In the South, most of the Negro users are habitués to cocain; in New York, heroin is the drug of choice; whereas in Chicago, less than 4 per cent. of addicts use heroin.

The explanation offered is that New York has become the center of established underground, organized traffic in heroin—a business with distributing depots in poolrooms, saloons and the gathering places of criminals, and with peddlers developing the trade.

The Chicago investigators suggest that narcotic addiction, if persisted in, indicates mental weakness. Seventy-five per cent. of the addicts met today, they assert, are either vicious or "inadequate personalities who are unwilling, or think they are unable, to stand physical or mental stress without the relief of narcotism." Furthermore, the majority of drug addicts are not phlegmatic, but quick, nervous, oversensitive, high-strung persons.

Especially interesting are the figures as to the number of deaths from drug addiction in Cook County—the county in which Chicago is situated. These figures demonstrate conclusively the value of the Harrison law. From 1905 to 1915, the number of deaths from narcotic addiction in Cook County varied from 10 to 38, with an average of about 19; whereas, from 1916 to 1923 the number varied from 4 to 11, with an average of about 7.

The Chicago physicians conclude, as a result of their experience, that the problem of controlling drug addiction is definitely dependent on two considerations: Drug addicts may be divided into those who develop the habit accidentally and who may be promptly relieved by discontinuing the drug, and those who take narcotics because they are weak personalities and in whom the probability of a permanent cure under existing conditions is slight. They feel that the only measure that will prevent a relapse consists in making the narcotic drug unobtainable. Any legislation leading to that end should obviously be encouraged. M. F.

MOUNTAINEERING

ONE million and a half visitors in a single year is the record of the forests of California, but no figures are available for the number of these visitors who trek to the high Sierras. Yet the number of these climbers increases each year. The trails are becoming worn.

Mountaineering has been considered a rich man's sport, and unquestionably if Chamonix is selected, expensive hotels, and the services of guides retained for several months, it can be made expensive. But for the United States or Canada in summer the only additions necessary to the ordinary camper's outfit are a pair of spiked shoes and a rope. Even the ice-axe, so important in winter, may often be dispensed with.

The White Mountains or others in the east do not offer soaring heights. Their dangers have been so far removed that lines of white stones placed close together mark paths on their summits. The climber's one chance of injuring himself lies in losing himself in the mists or fogs above the clouds.

No one can doubt the tonic qualities of a vacation spent roaming the forests at the bases of these mountains or struggling up through the scrub growth of spruces and pines that interlock and offer a certain area of difficulty. But for the climber who thrills to his own daring they are not great sport.

The case is different with the high Sierras or Cascades. They rise to heights nearly double

the highest of the Appalachian peaks, inspiring the climber by cliffs seemingly impossible to reach. Cut in canyons, their sides are covered with pines that take root in barren soil. No undergrowth impedes either man or pack train. The lure of this region is in glacial lakes and the silence of great forests.

Though there are handbooks naming every important peak from the Canadian border as far north as Mt. Sir Alexander, a distance of four hundred and fifty miles, the Canadian Rockies still remain the region most open to exploration available to the traveler who looks for his mountaineering near at home.

Here is primitive country. A short distance from the railroad and the climber is in forest and undergrowth. Fallen trees lie in the way. Rivers must be forded. Waters stream down the mountain sides in torrents. So popular has this region become that the Swiss guides who may be secured at Lake Louise have to be spoken for long in advance.

The peaks are there and must be reached.

A. G.

SMALLPOX VACCINATION IS SAFE

FROM time to time misleading or misinformed statements are made about vaccination against smallpox, one of the most important gifts of scientific study to the happiness and well-being of mankind. Fortunately, few people in America today have had face-to-face experience with large numbers of people sick and dying of smallpox, therefore most of us lack that intimate personal conviction which we have concerning the advantages, for example, of a due amount of regulation of our street traffic. The more intimate such experience becomes, however, the more the conviction increases that without vaccination smallpox cannot be fought successfully. All doubters should be referred to the nearest person who has had administrative control of this disease in severe form.

Vaccination protects against smallpox and only adequate vaccination or a previous attack of smallpox itself can be counted on to give such protection in case of exposure. Naturally, we cannot get something for nothing and the price of this protection for the individual and the community, when vaccination is performed and cared for by the best methods, includes a temporarily sore arm.

What smallpox vaccine is, and under what careful control it is produced, are other matters on which even those who consult dictionaries and encyclopedias do not always secure accurate information. Smallpox vaccine is a substance derived from animal inoculation. When properly applied at a tiny place in the skin of persons previously unvaccinated, a characteristic spot develops during the following two weeks. This can no more be mistaken for smallpox inoculation, or for anything else, by one who knows it, than an orange can be mistaken for a lemon.

All the strains of smallpox vaccine at present in use in the United States have been proved to be smallpox vaccine and nothing else, and it is contrary to regulation to introduce a foreign strain unless it has gone through prolonged official tests to make sure that no lurking disease virus is mixed with it. Incidentally, the strains now used by the various American manufacturers have been likewise proved to be fully potent and, if properly used, capable of controlling any smallpox outbreak which may threaten our shores, so that there is no necessity of introducing foreign strains.

On account of interchange between the producers at various times, and mixtures of different strains, the exact pedigree of the strains now used is lost in obscurity, but this is of no practical importance since we do know definitely, through years of experience during which these strains have been passed through many laboratory animals and applied to many millions of people, that they are, when properly used, incapable of harm and do give, within the limitations of the whole procedure, wellnigh perfect protection against smallpox.

Practically all the vaccine virus made in the United States is made subject to the inspection and tests of the U. S. Public Health Service. No article served on the most fastidious table is prepared with greater care. The calves which are used in the propagation are quarantined separate from all other animals for at least a week before, and are inspected daily to see that they harbor no disease; a special test is made against tuberculosis.

The animals, which pass these filters, come for vaccination with a skin cleaner than that of the best human arms presented to the physician for this purpose. After vaccination the calves remain in stalls kept more nearly spotless than those of the finest dairy. The vaccine is removed from the animals and prepared for use with a cleanliness equal to, or greater than, that of the surgical operating room. The filling of the small capillary tubes is required to be done in sterilized mechanical apparatus so that the human hand cannot come in contact with the vaccine. The calf is killed and carefully exam-

ined to make sure again that there was no lurking disease which escaped observation while alive.

Besides the general bacteriologic tests of the vaccine for purity, special tests are also made to eliminate the few diseases of cattle which man occasionally contracts. As an added precaution, directions as to the method of vaccinating and the care of the vaccination are usually enclosed in the package, which if followed will insure the greatest amount of protection with the least possible inconvenience.

When Jenner made his startling discovery of vaccination practically nothing was known of germs and the harm which they can cause, but from that time, as science has advanced, so have the preparation of vaccine and the practice of vaccination advanced. Today no methods nor precautions are omitted in the manufacture of this weapon of preventive medicine which, in the light of our present knowledge, could safeguard the product. G. W. McC.

NEW OUTBREAKS OF BOTULISM

SEVERAL years ago a banquet was held in Chicago, at which were present some of the most prominent business and professional men of the community. Shortly after the first two courses were served the guests began to reel from their seats, sick and nauseated. It was later discovered that one of the cooks, Jean Crohn by name, had inserted a liberal amount of a chemical poison in the soup before serving.

The incident is mentioned here only to use the name of this famous poisoner of food for a more insidious and dangerous poisoner, the bacillus botulinus, the "Jean Crohn of the bacterial world," the deadly poison of which may lurk in the can or the jar ready to strike the unwary. With little more than three months of 1924 gone from the calendar, the botulinus has reaped a noteworthy toll. Recent outbreaks in Oregon and in Colorado have taken the lives of seventeen persons. Those lives were sacrificed to ignorance of some fundamental facts about the canning or packing of food.

On February 2, twelve members of three families in Albany, Oregon, were served with a family dinner. Among the courses was a salad composed partly of string beans which had been canned in the home two years before. Sixteen hours after the dinner, two of the children, aged six and nine years, became nauseated, and one after another the other members began to fall ill, so that forty hours after the meal everyone of the twelve present was affected. The first death occurred twenty-seven hours after the dinner, and then one by one the others died.

On February 22, seven Italians at Sterling, Colorado, partook of a luncheon which was held to celebrate the end of a hog-killing bee. Among the food substances served was a string bean salad made from home-packed string beans. All of the seven fell ill and five died of the disease. The investigator for the United States Public Health Service found the toxins of the bacillus botulinus in the string beans.

One hundred and thirty-one outbreaks of botulism have occurred in the United States since 1899. Four hundred and fifty-four persons have been affected, and of these 307 have died. In the outbreaks reported here nineteen persons were affected, with seventeen deaths. In twenty-nine instances, the food incriminated was home-canned string beans; in fifteen cases, home-canned corn and in eight instances, each, commercially canned spinach and home-canned asparagus. Of the total number of outbreaks, the number caused by home-packed as compared with factory packed foods is about ten to one. This means that the home packer must exercise the same scientific control that commercial packers use if the dangers are to be avoided. These dangers may be avoided by the following considerations:

1. Careful selection of the food to be packed as to its soundness.

2. Thorough washing of the product before packing to eliminate as much poisonous material as possible in case this is present.

3. Thorough heating of the fruit, vegetable or meat substance that is to be packed. In order to kill the spores of the bacillus botulinus, a temperature of at least 240 F. for ten minutes is required, and this too not only on the surface or outside of the pack, but in the very center of the jar or can. The spores of the most resistant strains of the organism are killed only after a temperature of 212 F. (boiling) for six hours. Nothing will kill the spores of the bacillus botulinus so certainly as a proper amount of heat for a proper amount of time.

4. String beans, corn and spinach are the vegetables most difficult to pack safely. Only scientific control of the heat used, the pressure and the time constitute an adequate guarantee of safety. Boiling of the contents for thirty minutes after the package is opened will render the poisons of the bacillus inert. M. F.

TIMBUCKTOO

I have the dearest kitten;
  His name is Timbucktoo;
It's really wonderful the things
  That little cat can do!

We often eat together,
  I on a chair, you know,
While Timmie's pretty saucer
  Is on the floor below.

And Mother, when we're finished,
  Clears all the dishes up,
And washes Timmie's saucer
  After my bowl and cup.

And I put all our dishes
  Straight on the pantry shelves;
My things alone on one side
  And Timmie's by themselves.

And then we play together,
My kitty cat and I,
Until it's time for lessons
  And then I have to fly,—

And wash my hands, for Mother says
  'Twould never do, oh no,
To play with pets and not do that
  Although we love them so!

LOUISE MARTIN

HOW THE BAD-HABIT FAMILY GOT INTO KINGDOM HEALTH!

Once on a time, there wandered to
The gate of Kingdom Health,
A sad, Bad-Habit family,
In search of Fame and Wealth.

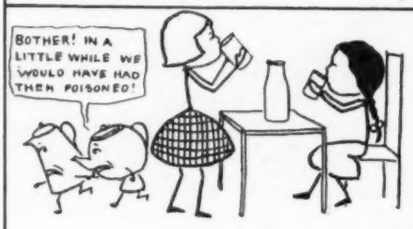
1

The Guard, advancing, barred the way,
And cried, "Be off with you!
We have no place in Kingdom Health
For such a sorry crew."

2

And all their pleadings were in vain.
"I shall not let you in
Until you mend your ways," he said.
"All right, sir, we'll begin!"

3

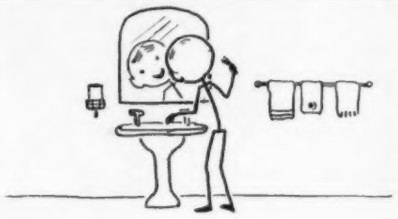


So Carrie Coffee and her friend,
Poor nervous Trudy Tea,
Drank only milk, and soon their cheeks
Were glowing rosily.

4

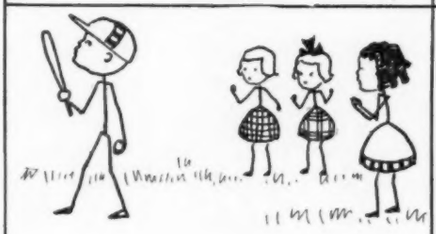
Young Willie Won't-Wash found it sport
To take a daily scrub.
He played he was a whale and had
The ocean in his tub.

5



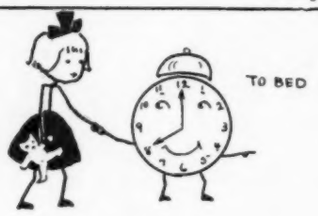
And Tommy Toothache never failed
To brush his teeth at night
And morning, too, and so his smile
Became a pleasant sight.

6



And Sammy Slump held up his head
And straightened out his spine.
My! He was proud because the girls
All thought him strong and fine.

7



Tired Lily-Up-Late went to bed
At eight instead of ten,
And took a nap each afternoon.
She felt ambitious then.

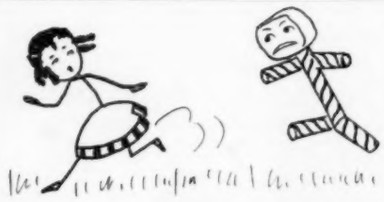
8

Thin Tillie Tonsil and her twin,
Frail Addie Adenoid, spent
A short time in a hospital
And gained fifteen per cent.

9

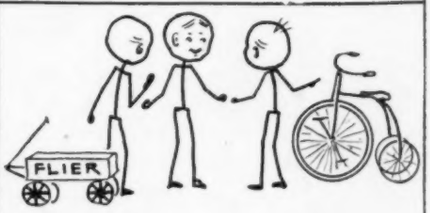
Said Wilbur Wetfoot to the duck,
"You need not laugh at me
Because I keep my feet dry now;
It's best for boys, you see."

10



And Constance Candy ran away
From bad "Between-Meals-Sweet,"
For too much candy is not good
For boys and girls to eat.

11



Small Wallace Whiner changed his way
Of speaking, and the boys
Who never liked him much before
Now offered him their toys.

12

Then back they marched to Kingdom Health. The gate was open wide, And this GOOD-HABIT family Ran joyously inside.

EDITH INGERSOLL BULLEN

HEALTH NEWS AND VIEWS

PRIZES FOR UNIVERSAL VACCINATION

A prize is offered by the Chicago Tuberculosis Institute to any school in Cook County, outside of Chicago, that reports 100 per cent. of vaccination of the pupils and teachers of that school.

As in many other localities, more cases of smallpox have appeared in Chicago and vicinity than for some years previous.

Unfortunately, vaccination is not so generally practiced in Illinois as in many other states, especially where vaccination is compulsory for school children. As a result of this negligence an epidemic of smallpox appears now and then which demands immediate attention.

Detroit is another city where vaccination has been sadly neglected and the number of cases of smallpox in that city has reached such proportions that social events have had to be postponed.

Any device which will arouse the people of a community to the danger and iniquity of neglecting vaccination for smallpox is to be encouraged.

MEDICAL CENTERS FOR ATHLETES

Several German cities, Hamburg, Leipzig and others, have opened medical centers for sports and athletics. At these centers, physicians, with ample experience in athletics, will give medical examinations and professional advice to athletes.

Before, during and after athletic contests, medical examinations and measurements will be taken of participants. Special attention also will be given to children, and exercise of the type their physical condition requires will be recommended to them.

Another duty of the physician in charge of the center will be to give public lectures on physical training and related subjects and to warn people against practices injurious to health and full development of their physical powers.

THE COVERED WAGON

The scene of this covered wagon picture is in San Francisco, not Los Angeles. The action is of today, not of the nineteenth century. Instead of oxen, we see horses; instead of plain and desert, city streets; instead of prairie schooners, garbage wagons.

This modern caravan of covered wagons could be used to advantage in every American city, San Francisco health and sanitary officials believe. It relieves the streets of the malodorous, unsightly and insanitary garbage wagon of the past, with its rickety sideboards and its occasional overflow into street and alley. Also it increases the self respect of the garbage collector to know that he is performing a necessary duty in an inoffensive manner.

Charles W. Geiger

MAY DAY FOR CHILD HEALTH

May Day is so associated in our minds with healthy, outdoor children that the American Child Health Association is fostering it as a special occasion to call the attention of the public to the importance of child health. May Day this year falls on Thursday.

Here are some of the services which the association believes every community should offer for the health of mothers and children.

Every community should provide medical supervision and visiting nurse service when required.

The school health program should provide for every school child: regular and thorough health examinations; regular weighing and measuring; home nursing service, when required; daily education in health habits and ideals.

General community protective measures should assure sufficient space for play, safe milk and water, adequate sanitation, effective supervision of communicable diseases, and complete registration of all births and deaths.

Organization of community child health work should provide for a full-time health officer, and in large cities a director of a bureau of child hygiene; a health department staff equipped to carry out measures for the registration of births and deaths, control of communicable diseases and the maintenance of health centers.

THE SIX-YEAR MOLAR

The first or, as it is often called, the six-year molar tooth, not only is the first of the permanent teeth to make its appearance, but it is the largest of the teeth. It is not replaced by any other tooth nor does it replace another.

However, this tooth is to play a very important part in the mouth, as it must sustain the stress of chewing during the period in which the temporary teeth are being replaced by the permanent teeth. It also largely determines the position of the permanent teeth which follow, and, therefore, the shape of the jaw.

It is clear that the loss of such a molar or the loss of its use through disease or bad position may have serious results. Appearing, as it does, about the sixth year it takes its place behind the temporary teeth without any interference and is usually mistaken for one of the temporary teeth and is neglected on the supposition that it will soon be lost or extracted.

Be sure, therefore, to watch for the appearance of the six-year molar, and when it appears (the sixth tooth back counting from the front center), care for it as the most precious gem in the whole set. It is not only the chief grinder at this time, but on its proper location depends the regularity of the second set, as well as the proper development of the features.

Pacific and Atlantic

CROSS COUNTRY RACE FOR FRENCH GIRLS

Cross country races are rarely indulged in by American girls, but in France there are many long distance runners among the sex. These girls are setting out on a cross country race of three kilometers (more than 1½ miles).

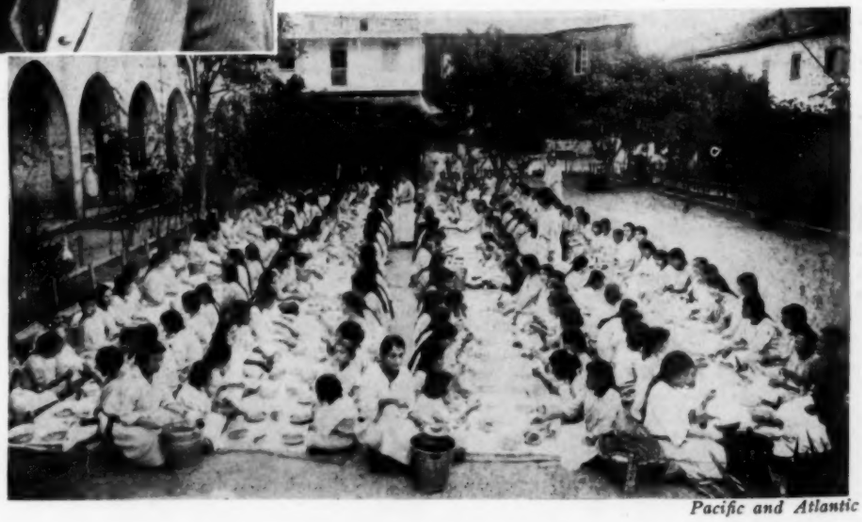
Keystone

ALL TOKYO IS VACCINATED

When several cases of smallpox recently were reported in the suburbs of Tokyo, the order went out requiring every man, woman and child in the Japanese city to be vaccinated.

EATING IN THE OPEN

Appetites never fail in this open air dining room at Juniyeh, Syria. The girls, Armenian exiles and orphans, are being fed, cared for and educated by the Near East Relief.



Pacific and Atlantic

Pacific and Atlantic

THEY'LL RESCUE YOU

You would never be allowed to drown while these girls were in sight. They are students at the Hebrew Institute in Chicago and are being taught all the fine points in life-saving work. There are many fine swimmers in the school.

FOOT WRITING AT WELLESLEY

These two Wellesley students now write a neat "foot" as well as a fine hand. Foot writing is one of a series of exercises which have been introduced to strengthen weak foot muscles. Most of the Wellesley girls walk at least five miles a day, and they need good support.

Keystone

Pacific and Atlantic

WALKS 7,000 MILES

Sam Diamond, New York newsboy, set out walking for his health. This was after he learned he had tuberculosis. A few weeks ago he arrived in Los Angeles, after a 7,000 mile tramp, by way of Canada. He had gained 38 pounds during his health pilgrimage.

Pacific and Atlantic

SAFETY FIRST—AND LAST

Philadelphia recently observed a "Safety First Day." This is the novel way in which the children of one of the public schools drove the lesson home.

Pacific and Atlantic

ALEUTIAN ISLAND GIRLS

These Alaskan Eskimo girls show the influence of white American civilization. They are said to be obedient and to learn reasonably fast in school.

Ewing Galloway

LEGLESS, BUT BEST SWIMMER IN TOWN

The best boy swimmer in Youngstown, Ohio, is Frank Shuber, a boy scout who is legless. Despite his handicap, Shuber was one of the first boys of that city to pass the life saving test in the water. He can swim fully clothed, can undress in the water, and can do a variety of aquatic stunts.

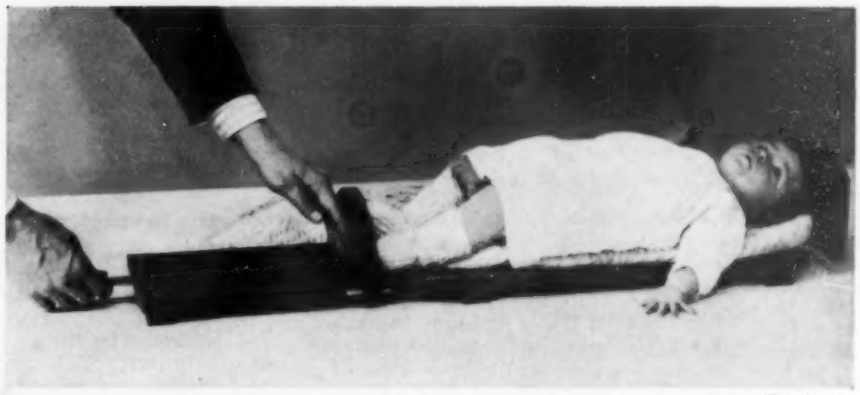
HOW TALL IS BABY?

A new measuring board has been devised by the Bureau of Standards of the U. S. Children's Bureau and dedicated to the public in accordance with government policy.

The board, or table, has two movable slides instead of one, as formerly, and readings are taken from the outside of the slide instead of the inside.

Baby may now be placed on the board comfortably and with little handling; both sides are adjusted to his height at whatever point between the two he may be placed.

The measuring scale is in centimeters for scientific readings and in inches for popular demonstrations.



Keystone

HOW TO STOP TEMPER TANTRUMS

If your child uses tantrums to get his own way, says the *Mental Hygiene Bulletin*, stop giving in to him.

If he has tantrums to gain attention, stop paying attention to him when he has them and perhaps pay more attention to the good things he does.

If he has tantrums to secure a bribe, cease to bribe.

If the tantrums are due to some physical cause or lack of play, remove the cause and try to give him better play opportunities.

If the cause is in yourself as a parent, it will take courage to remove it, but own to yourself you are wrong and control your temper and habits.

Many parents are themselves to blame for children's tantrums. They lose their temper when the child misbehaves and his temper is a reflection of theirs.

When you, as a parent, are angry do not shout at the child endlessly, "Stop," "Don't," "Be quiet," "Come here," "Get down."

Do not talk before a child of his fearful temper and his naughtiness.

Do not encourage a clinging, dependent attitude in your child so that he has a tantrum when you leave him.

Do not scold today for what you permitted yesterday.

Do not refuse a child's wish without explanation, or punish him without his knowing why.

EVERY DAY IS BABY DAY

With the slogan, "Every Day Is Baby Day," the state of Indiana, through its division of infant and child hygiene of the state board of health, is attempting to secure for every Indiana baby the following:

1. Healthy parents.
2. Instruction and care of mother by physician.
3. Mother free from overwork or worry.
4. Mother's milk. Gradual weaning by the end of the first year.
5. Regular hours for meals, bath and sleep. Well balanced diet.
6. Water to drink between meals.
7. Sleep undisturbed in a dark room having a constant current of cool, fresh air.
8. Clothing that does not restrict.
9. Gentle play with quiet laughter.
10. A part of each fine day out of doors.
11. Daily exposure to sunlight, indoors or out. (Eyes protected.)
12. Comfort. Avoiding extremes of heat or cold.
13. A happy home.
14. Regular "checking up" by a physician.
15. Protection: From kisses with germs, fingers poking for teeth, showing off, bouncing and high tossing, unsuitable food, too frequent feeding, pacifiers, dirt, discord, loud voices and nagging, movies and jazz.

LAWS TO PROTECT THE WORKER

Ten laws to protect the health of workers in industries are advocated by Francis D. Patterson in *Labor and Industry*. They cover:

1. Care of the pregnant wage earner.
2. Child labor, stressing the need for the physical examination of the child.
3. Seats for female employees, with care to provide a proper seat in order to avoid fatigue.
4. Hours of labor for female employees, providing the prohibition of night work, and at least 55 minutes for the midday meal.
5. Washing facilities, with especial provisions for the dangerous trades.
6. Eating facilities, again with especial provisions for the dangerous trades.
7. Plant cleanliness, with especial provisions for the dangerous trades.
8. Drinking water, adequate and convenient, with prohibition of the common cup.
9. Heating and ventilating, with especial provisions for dust and fume removal.
10. Vocational diseases, including mechanical means for the prevention of poisoning, physical examinations of process workers and the cautioning of employees in regard to the hazards involved.

WHEN IN DOUBT, CUT THEM OUT

The story is told of a hospital in a New England city which, when it first opened, took in a great many undernourished city children. Nearly all of these children had diseased tonsils.

Since the operating room was not quite ready, the tonsils could not then be removed. In the meantime the children were given complete open-air treatment.

A few weeks later, when the operating room was ready, the children were so improved that very few of them needed operating on at all.

If it were not for our indoor life in unventilated houses, schools and offices, says Henry Copley Green in "Listen In," where we are under continual exposure to colds and other infections, only a small percentage of us would need to have our tonsils removed. As sensible people, then, we should live as much as possible like the children in this true story—in the fresh air.

Mr. Green's advice for indoor people is this: "With tonsils, as with habits, when in doubt cut them out."

TUBERCULOSIS WORKERS IN SOUTH

The twentieth annual meeting of the National Tuberculosis Association will be held in Atlanta, Ga., May 5-10, it is announced. Experts on every phase of tuberculosis will present papers.

QUESTIONS AND ANSWERS

If you have a question relating to health, write to "Questions and Answers," HYGEIA, enclosing a two-cent stamp. If the question is of general interest, the answer will be published; otherwise it will be sent by mail. Questions are submitted to recognized authorities in the several branches of medicine and answers framed by them. The names of correspondents will not be published. Diagnoses in individual cases will not be attempted nor treatment prescribed.

Deep Breathing Exercises

To the Editor:—I would thank you to tell me if deep breathing exercises would help one who has lost his nervous balance to regain the same sooner than normal breathing of fresh air. If so, what exercise would you advise? R. E. J., Maryland.

Answer.—Deep breathing is a wholesome exercise, but has no direct connection with loss of nervous balance. Any one of the ordinary systems of deep breathing is good.

Epilepsy

To the Editor:—I should like to have some information on the question of epilepsy. Have you any literature on its cause and treatment? If you can tell me where I can get such literature I should very much appreciate it. The man I have in mind had what is called a boneflap operation performed in Los Angeles, but it disclosed very little. He has also been taking luminal tablets but with apparently no effect. Do you know of any institute that is doing any special research work in this connection that might be able to advise us?

A. D., Utah.

Answer.—Epilepsy is not the name of a disease but of a symptom that may occur in many different diseases. In this respect it much resembles headache. When, in any given case, the cause cannot be discovered, it often happens that the best that can be done is to try to prevent the symptom from appearing by careful regulation of diet, habits of life and work, with perhaps the administration of drugs that diminish the excitability of the nervous system. These drugs, however, do not cure, but merely alleviate the disease.

Many books and numerous articles in medical journals have been written on the subject of epilepsy, but we know of none written for laymen. Every case must be treated as an individual problem and should be studied by a competent physician who has had a large experience in nervous and mental diseases.

Much research is being carried on in numerous laboratories, but there has been nothing as yet discovered that offers a practical solution for the big group of epileptic seizures in which no cause can be detected. Any such discovery would be made available at once to every physician.

Nothing but disappointment and waste of money, with possibly more serious consequences, can be expected from alleged cures and remedies that are not within the knowledge of all neurologists.

Arthritis and Rheumatism
Test for Uric Acid

To the Editor:—1. Can I obtain a list of articles of food least calculated to increase arthritis and rheumatism? 2. Can I be taught by written directions how to detect uric acid in urine, and to tell when it is increasing or decreasing in quantity? I cannot afford to pay a physician for an analysis as frequently as it should be made. I get quite contradictory advice and want something dependable. B. M., Indiana.

Answer.—1. There is certainly no list of foods which have ever been proved to have any effect on either arthritis or rheumatism. The only kind of arthritis that is affected by food is gout, and it is unwise to live on an antigout diet unless it is certain that the trouble is gout.

2. Test for uric acid in the urine is by itself of no importance. Variations in the output of uric acid in the urine occur, but to be of value they must be correlated with the study of uric acid in the blood. The mere precipitation of uric acid, which sometimes occurs, even in normal urines, probably has nothing whatever to do with disease.

Constipation in Babies

To the Editor:—My nine months old baby is badly constipated, and he has been so for about two months. He has been bottle fed since he was six months old. For more than a month now I have fed him different kinds of cereal, graham crackers, and lots of cooked prunes and apple sauce, along with the milk, but it doesn't seem to change his condition. His bowels do not move without a laxative. His bottle consists of three parts of milk and one part of water sweetened with granulated sugar. He seems to be healthy otherwise, as he is fairly fat. However, he has only two teeth. I would like to have your advice on his condition. Mrs. C. E. H., Oregon.

Answer.—At this age, constipation may result from a number of conditions. It may be secondary to a diet giving too little residue. The cereal and fruit juices should be continued and, in addition, vegetables soups and purées may be added to the diet. These furnish more residue and also are valuable for their mineral content. A good grade of cod liver oil could well be given.

Laxatives should be given the last consideration, as they do not tend to relieve the cause. Diet alone, however, may not be sufficient to correct the constipation, and a thorough physical examination should be made by a physician in order to detect any defects in the physical development of the infant.

Catarrhal Deafness

To the Editor:—Can anything be done for catarrhal deafness? Is there any cure? Do such patients become entirely deaf? A. E. B., Wisconsin.

Answer.—Symptoms of beginning catarrhal deafness are often a feeling of fullness in the ear and diminution of hearing, with recurring colds in the head. These frequent colds may be associated with abnormal conditions in the nose or throat, leading to a congestion of the tubes of the ear. In a number of cases the diminution of hearing with other signs of catarrhal deafness appear without any marked symptoms of catarrh in the nose or throat or any sign of abnormality. In these, the causes are known.

Treatment is directed to the cause, and the earlier it is instituted the better the result. Exposure to cold and wet, as well as insanitary conditions, has an injurious influence. When the malady has gone on for

some time, changes result in the middle ear which impair the action of the structures which lie there. These changes are resistant to treatment; then the malady can only be arrested or delayed.

Total deafness is very rare. In extreme cases, aids to hearing are very beneficial. Many become adepts at lip reading.

Tinned Foods

To the Editor:—1. When one's vital organs are impaired and age advances, is it safe to use tinned foods of uncertain age, such as are found on the local markets? In this climate, it is certain that much of the tin inside the can is dissolved rapidly and where lacquer is used that dissolves too. 2. Are the dehydrated, unsulphured foods of uncertain age likely to be any better than the tinned products? For the present, I have about solved the problem by ordering direct from the factories whole grain cereals and from the manufacturers of unsulphured dehydrated foods. I do not know a better way, as long as the canners and packers do not give the date of packing to the consumer and as long as inspection is so imperfect.

L. J., North Carolina.

Answer.—1. There is no reason to believe that tinned foods are not safe to use at any age. Certainly, if the foods remain sterile, their value is not impaired. We have no records of tin poisoning having occurred in the United States from tinned foods. In fact, many state regulations allow 600 milligrams of tin salts per kilogram of the food. Such an amount rarely is found, however.

2. The mere discoloration of the inside of the can cannot be taken as an indication that the tin itself has been dissolved. Under present conditions of commercial canning, there are few safer foods, and most packs are now in code, not only as to the time of canning but as to the place in which the food was packed.

Dehydrated or dried foods are wholesome, but there is no reason to believe that they are better than properly canned foods.

Violet and Ruby Rays

To the Editor:—What is a Finsen light? Of what value are the ruby rays in the treatment of nervous persons? Would such persons be benefited by living in houses with ruby colored windows? What is the difference between the violet ray and the high frequency current?

E. S., Oregon.

Answer.—Finsen light is a name applied to the chemically active rays of sunlight used through an apparatus which was designed by Dr. Finsen of Copenhagen for the treatment of lupus (tuberculosis of the skin). Finsen first used concentrated sunlight. He then used a cumbersome electric light with a series of lenses. In recent years various mercury vapor lamps in fused quartz tubes have been introduced as a substitute for the complicated Finsen apparatus. Quartz is used in these lights, as it was in Finsen's light, instead of glass because the whole object of the apparatus is to get the chemical rays. Other names for these are actinic rays, or ultraviolet rays. Glass only allows a small proportion of these rays to pass; quartz allows most of them, so quartz is used in the apparatus.

The actual ultraviolet lamps have active properties which are curative for some purposes, but these forms of apparatus have been counterfeited in all sorts of ways. The only light or ultraviolet light apparatus that is of any use is the expensive quartz lamp machine. Many fake ultraviolet light or violet light machines have been put out. They include all sorts of imitations, from ordinary incandescent bulbs with a blue glass over them to little high frequency electrodes in which there is a violet light produced by the electric stream in a vacuum. All of these are useless as lights for remedial purposes.

Ruby rays are red rays at the opposite end of the spectrum from violet rays. Such rays and the ultra-ruby rays (that is, rays beyond the red which are invisible) are the least active chemically of light rays. Their use has been proposed in conditions in which light is thought to have an unfavorable effect on the patients. The suggestion is based on the idea that the patients would be best off in the dark, that is, excluded from light, but, as this is impracticable, the next best thing is to put the patient in chemical darkness such as would be afforded by exclusion of all light except the red. This is the same reason that the photographer uses a ruby lamp in his darkroom, because it is convenient to have some light and a ruby light is not sufficiently active chemically to affect his photographic plates.

There is no likelihood that anybody would be benefited by living in a house with ruby colored windows.

Breech Presentation

To the Editor:—We heard over the radio that you would answer our medical questions. Our first child, a boy, was born a breech presentation, August 30, 1922. The mother's age was 29. If we were to have more children, would they probably be born the same way? What causes breech presentation, and what can be done to prevent it? Would this endanger the mother's life, if she were to have more children.

A. J. K., Ohio.

Answer.—Breech presentation, in which the child appears buttocks first instead of head first, as is the usual method, is due sometimes to contracted pelvis and sometimes to tumors of the womb, thus preventing the child from lying in the "head first" position.

Breech presentation is not particularly abnormal and should not be feared. It occurs sometimes in the absence of any contraction (bony) or tumor, or any other abnormal condition. It need not be difficult for the physician to handle, other things being normal. It carries with it no increased danger to the mother and only a little more to the child.

Careful observation during pregnancy is the best way to prevent it, if indeed prevention is desirable. A second pregnancy to this mother might terminate in head presentation.

Bald Spot

To the Editor:—I am 26 years old, with light brown hair and plenty of it and in good health. About a year ago my hair commenced to come out in one spot at the back of my head just below my hat. I have a bare spot there as large as a half dollar and the hair is now coming in gray. What can I do to bring the hair to its original color and what causes it to come out?

C. H. W., Connecticut.

Answer.—The condition described is almost certainly the type of hair loss known as alopecia areata. The cause of the condition is not known, although it is apparently due to some interference with the nerve supply of the scalp. It has been suggested that conditions such as impacted teeth, bone malformations in the nose, etc., are responsible for some cases, but this explanation is far from satisfactory.

In this type of baldness the hair not infrequently is of a light color when it returns. As a rule, the normal color is gradually regained. If it is not regained spontaneously, the only relief is by the use of a nonpoisonous dye.

HEALTH REVIEWS

DO WE MOVE TOO FAST?

Is this dancing, motoring, speeding age bad for our health, or is it good? This question introduces an editorial in the April *Woman's Home Companion* that is worthy of some consideration. Says the editor:

"Many diseases of middle age can be traced to sedentary habits, to living house-bound lives, to overeating. Today, with grandfathers and grandmothers driving their own automobiles, the middle-aged spend more time outdoors and see more of their country than ever before in its history.

"When mothers and fathers compete with their children on tennis courts, in winter sports and on dance floors, digestions must be better, arteries softer, and oxygen must be absorbed in larger quantities than in the days when grandmothers donned caps at fifty and mothers rarely danced after introducing their daughters to society!

"We may be going too fast, but at least nobody is stagnating.

"Stray items in the daily press prove that men and women are not only living longer, but they are getting more out of their later years than their parents and grandparents did."

Interest in matters outside the home or office do much to keep one's thoughts away from his own aches, pains, troubles and grievances. Energy expended in giving service to the community makes for physical and mental vigor, in many cases, and the woman or man who is active in various projects and amusements and who avoids a sedentary, narrow, introspective life, does not so readily yield to the ailments of middle age.

SPORTS FOR GIRLS

Swimming, rowing, canoeing, hiking, horseback riding, basketball, field hockey, golf, tennis and skating are the sports recommended to girls by Fielding H. Yost, director of intercollegiate athletics at the University of Michigan, in an article, "If She Were My Daughter" in the *Delineator* for April.

In all of these sports, says Mr. Yost, moderation is important; particularly so, in sports of a competitive nature. Under the stimulation of excitement and the desire to win, a girl will often play much longer than is good for her. The safest rule is to stop any sport, game or exercise as soon as one is conscious of fatigue.

"I would want my daughter to remember in competitive games," writes Mr. Yost, "that the mind as well as the body is being trained. I would want her to learn the spirit of sacrifice and service which comes with subordinating the individual to the team, the spirit of fair play, which recognizes the rights of opponents, and self control, which is proof against the vicissitudes of defeat.

"Women are naturally violently partisan—a quality which, perhaps, has been one of the biggest contributors to civilization. In competitive games they may learn to see things a little more from the other side's point of view, and still not sacrifice any fundamental loyalty to their own."

The Michigan director of athletics would not want his daughter to develop into a great star in any one game. He would prefer that she be able to take part in games with a feeling that she would not have to apologize for her lack of skill. But, if she became imbued with the idea that she had always to win, he would prove a "wet blanket" to her ambitions.

If a girl is so situated that she cannot take part in competitive games or mass athletics, she can do a few simple calisthenics at her home. Such a program must be faithfully carried out, however, for exercise is not beneficial if done in a hit-or-miss manner.

As to dancing, Mr. Yost thinks it a beneficial pastime, if done under proper chaperonage and with due regard to the unwritten laws of courtesy and propriety.

THE COMMON COMMUNION CUP

The fact that some churches still use the common communion cup is made the subject of an editorial in the March issue of the *American Journal of Public Health.*

The only reasons which can be given for the use of the common cup in communion services are custom and tradition. According to this journal, history shows that the common cup was probably not used in Bible times, and the methods used by the Episcopal and several other churches now are not those employed in the beginning of the observance. The earliest picture representing the Lord's Supper shows that each partaker had a separate cup before him, the magazine points out.

The use of the common cup violates the most fundamental principles of hygiene. It is revolting to many people on the grounds of simple cleanliness and keeps many devout church members from partaking of communion.

In the Roman Catholic church, the problem has been solved by keeping the chalice away from the laity, the priest only partaking of it. Most of the Protestant churches have abandoned the common cup, but in one denomination, at least, and in isolated congregations of others, the practice still persists.

AVOID THE UGLY, MORBID AND GOODY-GOODY WITH CHILD

We should surround children, if possible, with things beautiful, vital and delightful—pretty toys, fine fairy stories, innocent games, sweet songs and dances—and we should consign monstrous and ugly toys to oblivion, along with jazzes, morbid and goody-goody talks, wishy-washy songs and slang.

So says W. Egerton Hine, former art master at Harrow, the English School, in an article on "The Child Mind" in the British journal of infant welfare, *The Child.*

Never talk of sickness before children, is Mr. Hine's advice, for their minds are sensitive plates recording impressions for after-development; nor should we overemphasize "Thou shalt not."

Children's monkey tricks and irrepressible fun, spoiled with naughtiness, are usually safety valves for letting off steam of superabundant vitality, for piety is exceptional in the young, saintliness being a growth of soul acquired by overcoming.

Forcing to obedience is rarely necessary in children if tact and sympathy are exercised. If the child mind is overstrained, his merry soul is temporarily eclipsed.